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Stream Monitoring Report

STREAM MONITORING

The Pacific Lumber Company has an extensive three year old watershed monitoring program. We have installed 52 permanent stations. At each station we measure aquatic macroinvertebrates, fine sediments, substrate size and crown cover. At a subset of these stations we also measure continuous temperature and surveying the stream bed. We now have a better understanding of the condition of our streams. More importantly, these stations are a benchmark against which to measure change over time. We are developing relationships between the condition of the stream and the health of the entire watershed.

Aquatic macroinvertebrates have been widely used for decades in America and around the world as a cheap and effective way to assess water quality. We are using as a guide, the California Stream Bioassessment Procedures prepared by Jim Harrington of the Department of Fish and Game. The samples are being identified by Lauck, Lee and Lauck Inc.

Sediment samples are being used to assess the percent of fines (<0.85mm) as an indicator of suitability for Salmon spawning. We are using the shovel sample technique as described in "Field Comparison of Three Devices Used to Sample Substrate in Small Streams" by Grost and Hubert, 1991.

Pebble counts are being used to estimate whether the stream is sediment loaded. Sediment loading can effect spawning gravels and fill in pools. We are using the method described in "Stream Reference Sites" Harrelson, Rawlins and Potyondy, 1994, RM-245.

On a subset of the plots we have measured water temperature over the summer using continuous recording thermometers (Hobos or Stowaways).

Crown cover percent has been estimated using a spherical densiometer.

In 1996 we surveyed the stream bed of 12 of the stations using a method developed by Dr. Bill Trush in cooperation with Simpson Timber Company. We used an engineer's level and surveyed the bottom of the channel at the thalweg. We expect this to be a quantitative index of habitat quality. The more pools and structure (deep, dark and dense) a stream has, the greater the coefficient of variation around the mean should be. By setting a permanent benchmark, we can remeasure in the future for aggradation and degradation.

The Inland Fisheries Division of the Department of Fish and Game maintains 12 permanent monitoring stations on our property. Due to sample design problems in sediment collections, we have deleted state sediment collections from 1992 to 1995. They also provided some regional data that will allow us to better assess what is normal.

The following assessment is a compilation of existing data. It includes data from across PL's property and across the north coast region. This larger view helps us to put into perspective site specific information and help us better understand what the range of normal conditions are in our north coast streams.

This information is summarized by year, by stream, by planning watershed, by larger river system. An We are using planning watersheds that were mapped and provided by the Resources Department.. Planning watersheds are defined in the rules under 895.1. Their use is encouraged under 897(b)(1)(B), 916.8, 1091.3 and 1091.4.

AQUATIC MACROINVERTEBRATES

The use of macroinvertebrates as indicators of stream condition is a well accepted and long established method (Erman, N, 1991). An inventory of macroinvertebrate fauna in stream riffles can measure changes in chemical and physical stream properties. These changes ultimately determine the presence and distribution of resident biota (Usinger, 1956). Such an inventory is indicative of current as well as past environmental conditions. This method of sampling emphasizes the collection of bottom dwelling insects, which are relatively fixed in their habitat, unlike fish or plankton which can move to more favorable conditions (Usinger, 1965).

Richness

This is a measure of the total number of taxa or groups of taxa. Insects are grouped down to the Genus level. The **Richness** metric and the **EPT Index** are measures of richness. Taxa richness generally decreases with decreasing water quality (Weber, 1973; Resh and Grodhaus, 1983). The following table will help describe the quality of the stream when Genus Richness is used as a metric. (Personal Com. Jon Lee, 1994) :

	Poor	Average	Good
Richness	<25	25 to 34	>35

Community Diversity Index

The most common measures of stream health are diversity indices. Diversity indices measure species richness rather than abundance. A healthy stream should exhibit high diversity evidenced by a large number of taxa without any one taxon dominating.

The **Simpson** diversity index is the most commonly used diversity index when addressing aquatic communities (Magurran, 1988, Rosenberg and Resh, 1992).

The **Simpson** index is based upon species dominance. The **Simpson** diversity index ranges from 0 - 1.0. As the index approaches 1.0, the more diverse the sample is thought to be. The following table will help describe the quality of the stream when the Simpson index is used (Personal Com. Jon Lee, 1994) :

	Poor	Average	Good
Simpson Diversity Index	.7 to .79	.8 to .89	.9 to 1.0

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Enumerations

This tries to measure balance between the groups of insects.

The **Ephemeroptera, Plecoptera, Trichoptera (EPT) and Chrionomidae** ratio uses relative abundance of these indicator groups as a measure of community balance. A good biotic condition is reflected in communities having a fairly even distribution among all four groups, and with substantial representation in the sensitive EPT groups. A sample with a disproportionate number of the generally tolerant Chironomidae would indicate environmental stress. Factors limiting the presence and abundance of the sensitive EPT groups could include such things as sediment input, changes in water chemistry, flow, and temperature.

As the value for EPT / Chironomidae approaches or drops below 1.0 then the sample area is in a less then favorable condition.

The **Dominance Percent** is the ratio of individuals in the most abundant taxon to the total number of organisms identified. A sample dominated by relatively few taxa would indicate environmental stress, as would a sample composed of several taxa but numerically dominated by only one or two. Rather an abundance of taxa with a fairly equal distribution of individuals within the taxa is indicative of community balance.

The following table will help describe the health of the stream when using Percent Contribution of the Dominant taxa (EPA 444/4-89-001) :

	Good	Average	Poor
% Contribution of Dominant Taxa	< 20 %	21 - 40 %	> 41 %

The **Percent Chrionomidae** is a metric that is sensitive to degraded conditions in the stream. Chironomidae as a group are more tolerant to pollution than other invertebrates. The lower the percent the better the condition.

The **Percent EPT** is also an index that is sensitive to degraded conditions in the streams. As a group, EPT are sensitive to negative changes in the stream. The higher the percent, the better the conditions for Salmonids.

The **EPT richness** index enumerates the number of genuses in the EPT group in the sample. Since this group is generally sensitive to degraded conditions, a larger number indicates better conditions in the stream.

Biotic Index

The **Hilsenhoff Index** is a biotic index. This index weights the relative abundance of each taxon in terms of its pollution tolerance to determining a community score. Generally the higher the score the poorer the water quality (Hilsenhoff, 1982). It is not clear if this index has been adequately calibrated for the North Coast, but it will still be useful for monitoring change.

Index	Condition
0.85 to 1.75	Excellent
1.76 to 2.25	Very Good
2.26 to 2.75	Good
2.76 to 3.50	Fair
3.51 to 4.25	Poor
4.26 +	Very Poor

Functional Feeding Groups

These metrics try to measure how changing stream conditions change the food supply thus favoring one type of feeder over another.

The **percent scrapers** is a metric that is sensitive to toxicants and modification of the riparian zone (Rosenberg and Resh, 1993). Generally, the lower the percentage the cooler the water and the denser the canopy (Resh 1996 Per. Com.).

FINE SEDIMENTS

As part of the monitoring program, stream sediments have been measured across the property and in the region by PL and F&G. There have been 368 sediment samples collected, mostly during the last four years, using McNeil and Shovel samplers. Nearly all of the samples were analyzed by F&G. In 1996 we deleted 238 F&G sediment samples from the database on the advise of F&G. It was decided by F&G that by sampling the exact same spot each year and not the best spawning gravels in riffles, they had introduced a bias into the study. We threw out all but the first year's data.

In 1995 the California Dept. Of Fish and Game (Hopalin, pers. Com. 1996) did a comparison of McNeil and Shovel sampling methods. In 8 comparison reaches, the average percent fines <0.85 was 18.7% for McNeil samples and 21.0% for shovel samples. A study in Washington (Schuell-Hames, 1996) concluded there were no statistically significant differences in mean percent fine sediments (<0.85).

The percent fine sediment (< 0.85mm) is commonly believed to affect the ability of fish to spawn successfully. It has been reported that salmonid survival begins to decline when fines exceed 20% (Lisle and Eads, 1991). The exact relationship is not fully understood.

There is a high degree of variability within monitoring stations, within streams, between streams and between years.

It is interesting to look at streams that have had almost no logging or other post European impacts. The three reference streams in Humboldt Redwood State park average 20.8% fines. Godwood Creek measured in the late 1960's (Burns, 1970) had 17.6% fines. And, South Fork Yager Creek also measured by Burns in the late 1960's prior to any harvesting had 18.6% fines.

By contrast, the Yager basin with 127 samples over 15 years has an average of 17.6% fines. Freshwater Creek, with 24.2% fines, has been recovering from extensive logging around the turn of the century and is generally considered to be a healthy Coho Fishery.

It may well be that natural fine sediment levels of greater than 20% are common and normal in our north coast streams. It may also be that the impact of logging on sediment production may not be as great as is commonly believed.

It is also interesting that the high variability within streams would allow a discriminating salmonid to find good quality gravels in almost any stream in almost any year. There are only six instances out of 44 streams and years where sediments with less than 20% fines were unavailable. One of these is Bull Creek in the state park.

TEMPERATURE

We now have 79 good quality continuous temperature records in this area. The first good numbers were collected by F&G in 1991 using a “Temp. Mentor”.

The effect of high temperature on salmonids is often expressed as the upper incipient lethal temperatures (ULIT). This is the temperature at which 50% of the exposed fish die (Fry, 1947). The ULIT for Chinook has been estimated at around 25°C (77°F) (Brett, 1955 and Orsi, 1971). There is some indication that fish in the southern end of the range may be able to tolerate higher temperatures (Orsi, 1971) than the study fish from British Columbia. There is also some indication that diurnal fluctuations in temperature help condition fish to withstand higher ULIT’s

(Threader and Houston, 1983 and Health, 1963).

Fish are mobile, so on the few days each year when temperatures exceed ULIT, they probably move up the tributaries or take refuge in cool pools.

In general, the larger the watershed, the wider the channel, the warmer the water. This is perhaps due to the inability of the riparian vegetation to shade the water. It may also be a result of larger streams having a larger percent of their watersheds in upland prairie lands. In our smaller forested tributaries, peak water temperatures are generally between 60° and 70° F. Similar sized tributaries in Humboldt Redwoods state park were 63° and 67° F. In streams with good canopy cover, it may be that temperature has more to do with the size of the watershed than the type of cover.

A problem in streams like Yager is the temperature of the water we receive from upstream. These upland areas tend to be prairie lands with less shade producing riparian zone. As the water in the mainstem of Yager passes through our property it is cooled by the water from our forest lands. In 1992, the peak water temperature we received at the Straddle Legged bridge was 78°F on July 15. At the lower end of our property on that same day it was 71°F. This is probably due to the contribution of cool water from the smaller tributaries where we own most of the watershed and are able to maintain the shade canopy in the riparian zone.

STREAM BED SURVEYS

In 1996 PALCO began installing stream bed surveys. This is a technique that is being developed by Dr. Bill Trush and Simpson Timber Company. Using an engineer's level, a field crew carefully measures the bed of the stream under the thalweg moving up the stream. We measured 12 of our monitoring stations, surveying upstream for 500' to 1,000'. This gave us X (elevation) and Y (distance) coordinates. A linear regression of this data gives us the elevation, slope and coefficient of variation. The coefficient of variation should correlate to pools, structure and cover that are beneficial to fish. Subsequent remeasurement of the reaches should give us information about aggradation or degradation and the change in complexity.

LARGE WOODY DEBRIS SURVEYS

To address the levels of large woody debris (LWD) we will begin using the State of California's protocols to measure LWD. We will survey for LWD in the stream reaches where stream bed surveys are being conducted.

STREAM REACH MONITORING TECHNIQUES

1. Selecting Sites
    a. Semi random selection
        i. 28 sites were selected semi randomly in 1994
            (1) Henry Alden selected the sites soon after his arrival at the company with very little knowledge about the condition of particular streams.
            (2) The site were selected on the map prior to any field visits
            (3) The forester establishing the stations was trained in station layout but had very little training or knowledge in how to assess sites in terms of “good” or “bad”.
    b. Random Selection
        i. An additional 20 sites were randomly selected in 1995
        ii. A 500 acre GRID map with nodes was used to locate the new sites.
        iii. All nodes between 2,000 and 5,000 acres were numbered. Larger streams will be selected in a similar manner.
        iv. If a node is at the confluence of streams, up to three sites can be counted. You can go up or down each fork if they are in the proper range.
        v. Start a new sequence of numbers in each Watershed Assessment Area (WAA)
        vi. Allocate monitoring sites proportional to PL acreage in each WAA
            (1) Humboldt Bay - 15
            (2) Yager - 8
            (3) Van Duzen - 6
            (4) Eel - 18
            (5) Bear River and Mattole - 7
        vii. We used a random number generator to select sites
        viii. A selected site must meet the following criteria
            (1) Located on PL land
            (2) No randomly selected site can be within _ mile of another site
            (3) If the stream dries out before the fall rains, it can not be used
            (4) If the location of the GRID stream is different than the actual stream go upstream from the node until it hits the stream
    c. Sites of interest
        i. Some sites have been selected because they are of special interest
            (1) Reference streams have been selected for being pristine or highly disturbed.
            (2) Cow Creek, Squaw Creek and Canoe Creek in the park were selected as undisturbed reference streams
            (3) Cuneo Creek in the park was selected because it is highly disturbed
            (4) A McCready Gulch site was selected because of the interest in the area.
2. Locate 200' Stream Reach
    a. Go to the ground location of the site
    b. If it is a straight stretch go upstream
    c. If the site is a confluence go up or down as appropriate (See 1.d.)
3. Characteristics of a suitable site
    a. Straight
    b. Identifiable bank to determine bank full discharge

c. At least one pool and one riffle

4. Record Site
   a. Place rebar at the bottom, middle and top of reach
   b. Record pools, riffles and runs.
   c. Reference marker on road and field directions
   d. Watershed, Creek, T, R, Sec
5. Identify macroinvertebrate sampling riffle
   a. Select riffle for sampling
   b. Place rebar at start and end of riffle
   c. Select four sample sites for ease of collection
   d. Combine samples into one sample per site
   e. Take temperature in riffle
   f. Record upstream distance of each collection site
   g. For remeasurements, try to remeasure the same riffle. If the riffle has moved, locate and measure another riffle as above.
6. Shovel sediment sample
   a. Locate three sites at pool/riffle breaks (1996+)
      i. Start at the down end of the reach, go upstream and sample the first three pool/riffle breaks. This may result in leaving the upstream reach.
      ii. It is not necessary to mark the site
      iii. Sample in thalweg
   b. Collect shovel sediment samples
      i. Do not combine samples
      ii. Identify sample with flagging in and outside of garbage bag
   c. For remeasurements, try to remeasure the same riffle. If the riffle has moved, locate and measure another riffle as above.
7. Do a pebble count as described in Chapter 11 of RM-425
   a. Sample the riffle section identified for the insect collection
   b. Sample transects across the stream
      i. Start one step in from the bank full line
      ii. Sample every step
      iii. After last full step, go upstream one step
      iv. Transects should be one step apart moving upstream
   c. Tally each sample
   d. For remeasurements, try to remeasure the same riffle. If the riffle has moved, locate and measure another riffle as above.
8. Temperature measurement
   a. Place a Hobo where there is good water mixing and it is unlikely to go
   b. Monitor temperature from June to October
9. Canopy Cover
   a. Use a hemispherical mirror densiometer at 50', 100' and 150'
   b. Collect four measurements at each point by facing N,S,E & W.
   c. Average the four samples
10. Stream bed Survey
    a. Frequency

i. 1996 - 12 stations

b. Methods

i. On a subset of the stations we conducted Stream bed surveys with an engineers level

ii. Set permanent benchmark out of the channel at the downstream end of the station

(1) Drive a railroad spike into the base of a tree at least 24" DBH

(2) 18" X 1" pipe with footing

(3) Map and flag the benchmark location

iii. Start point elevation at the benchmark is 100'

iv. The start point in the stream should be the downstream end of station

v. Lay a surveyors measuring tape along the channel as far as possible in a straight line

(1) Record the distance and bearing of the straight line

vi. Survey points at all grade changes in the bottom of the channel

(1) Measure at the thalweg

(2) Record elevation

(3) Record distance from the start point

(4) Record the offset from the tape line

vii. Measure 500' to 1000' up the stream

viii. Close the transect back to the start point to prevent major errors

11. Large Woody Debris (LWD) Survey

a. Frequency

i. 1997 – 26 stations

b. Methods

i. LWD surveys were done on reaches where streambed surveys were run

(1) Check map and notes in the WAA binders for station locations

(2) Check stream survey data for stream reach length

ii. Find the start point of the streambed survey and begin measurement of LWD

(1) Start of reach should be marked with flagging and orange painted rebar on both sides

iii. Measures LWD pieces upstream through entire length of streambed survey reach

iv. Use loggers tape to measure diameters and lengths until accurate estimates can made without measuring – calibrate with the tape periodically as a check

v. Measure LWD pieces and record the required measurements on form – check form for appropriate units (i.e., feet vs. inches) for each measurement:

(1) Record the **location** of each LWD piece relative to the bankfull channel (see figure):

(a) Bankfull, code 3: Any LWD piece which falls all or partially within the bankfull channel. Be sure to identify the location of bankfull channel as closely as possible by noting changes in sediment size, moss lines or scour lines on roots and rocks, and vegetation changes.

(b) Centerline, code 4: LWD which crosses the centerline of the bankfull channel

(c) Left Bank, code 2: LWD that does not enter bankfull channel, but lies entirely or partially within the top of the bank on the left side of the stream (facing downstream)

(d) Right Bank, code 1: LWD that is oriented as described for left bank, but is on right side of channel facing downstream

(2) LWD **Type**: For standing logs (live: code 4, or snags: code 2), estimate height to 6" top, and give DBH. For down/perched logs, code 1, 3, or 6: record the length and diameter at large end (D1) and small end (D2) (see figure)

(3) Use the appropriate **Species** code – use code 7 "other HW" for unidentifiable LWD species

(4) Measure **Distance from 0** (start) of reach for each piece of LWS with fiberglass tape or stringbox

(5) For **Rootwads**, code 5: measure diameter at the cut line as well as the A axis, B axis and C axis, and measure trunk sections attached to rootwads the same way as for logs (see figure)

(6) The **Quality** index of the LWD refers to whether it is an intentionally placed object such as a cabled log, code 1 keyed in, log weir code 2, or log bridge, code 3. Only "placed" items need a code.

12. Tools
    a. 200' tape
    b. Rebar and hammer
    c. Thermometer
    d. Map
    e. Flagging and permanent marker
    f. Reference tag
    g. Paint
    h. Dip net (500 micron)
    i. Plastic pans
    j. Poly propylene jars
    k. Squirt bottle
    l. Number 35 sieve
    m. Forceps
    n. Alcohol-proof pen
    o. Water proof paper
    p. California stream bioassessment procedures and worksheet
    q. Shovel
    r. Plastic bucket
    s. Garbage bags with ties
    t. Fish & Game field note form
    u. Metric Caliper
    v. Metric tape measure
    w. Cobble forms
    x. Concave hemispherical densiometer

Large Woody Debris Inventory Form

Station #

Station Name

Date

Crew

Total Length

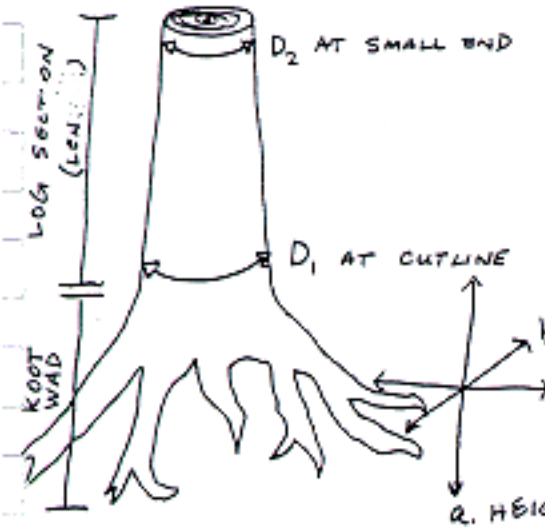
Location	Code
Bank Full	3
Center Line	4
Left Bank	2
Right Bank	1

Qulaity	Code
Keyed in	1
Projects	2
Bridges Etc.	3

Type	Code
Log	1
Snag	2
Perched	3
Live log up	4
Rootwad	5
Live log down	6

Species	Code
Redwood	1
Douglas Fir	2
White Wood	3
Alder	4
Maple	5
Willow	6
Other HW	7

Locaton	Type	Species	LWD Dimensions			Distance	Root Wad Size			Qulaity
			Diameter 1 (Inches) Large End	Diameter 2 (Inches) Small (8")	Length (Feet)	From 0' (Feet)	A Axis (Feet) (Height)	B Axis (Feet)	C Axis (Feet)	



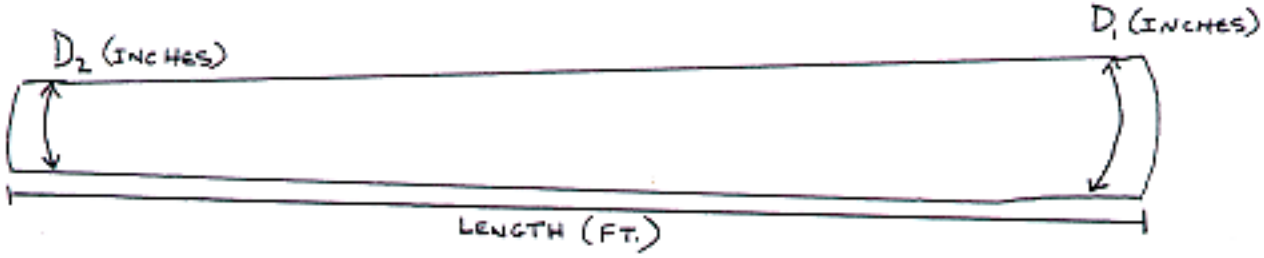
MEASUREMENTS:

LOG SECTION:

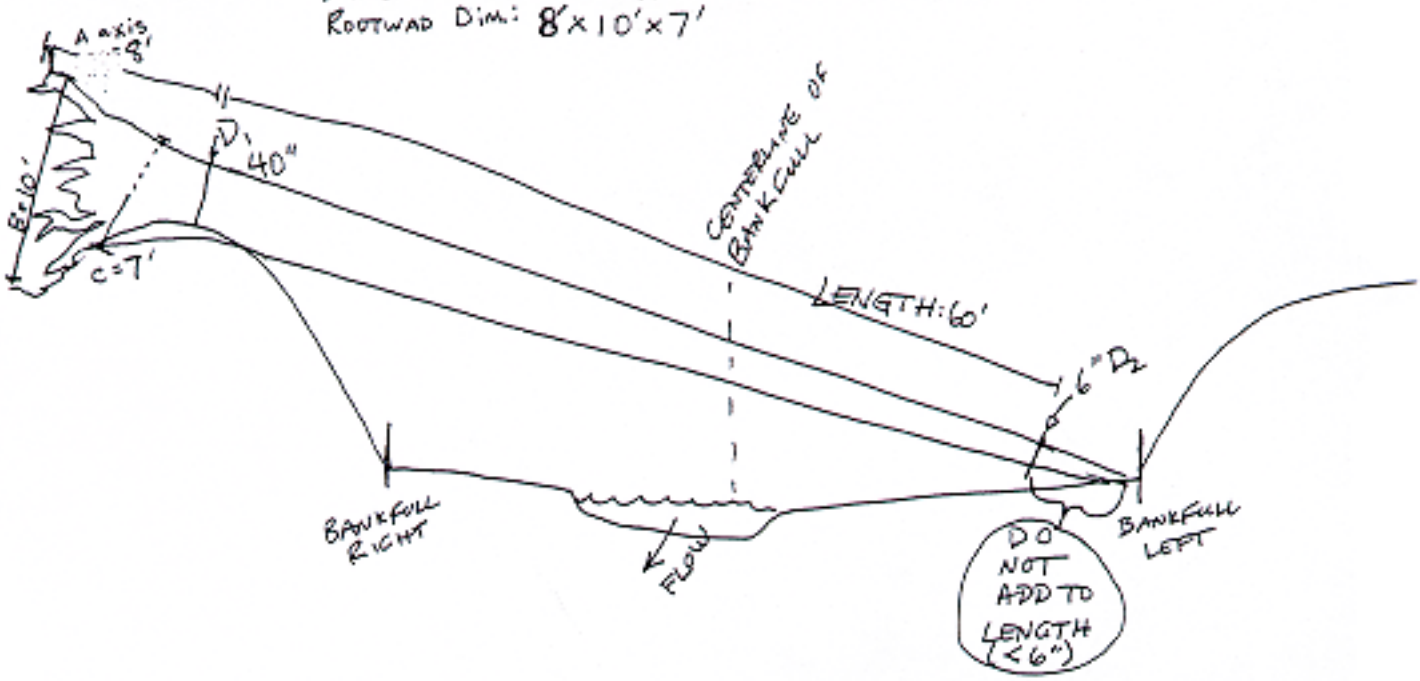
- D_1 (INCHES)
- D_2 "
- LENGTH (FEET)

ROOT WAD:

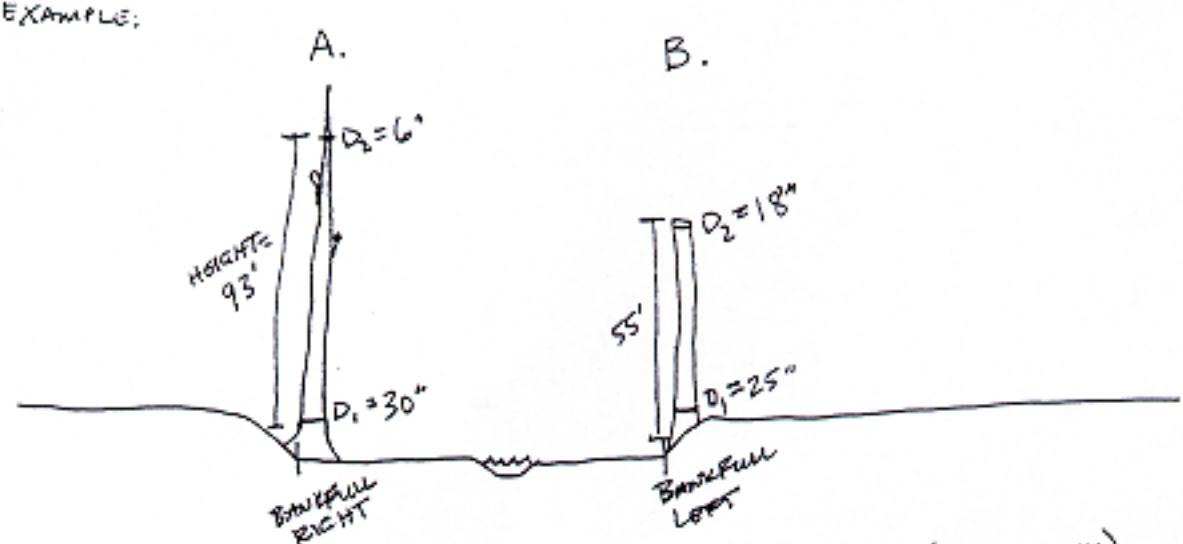
- a. AXIS (ft.)
- b. & c. AXIS (ft.)
- D_1 (EVEN IF NO LOG SECTION)



EXAMPLE: LOCATION : 2 CENTERLINE
TYPE : 5: ROOTWAD
SPECIES : 1 REDWOOD
LOG DIMENSIONS: 40" x 6" x 60'
ROOTWAD DIM: 8' x 10' x 7'

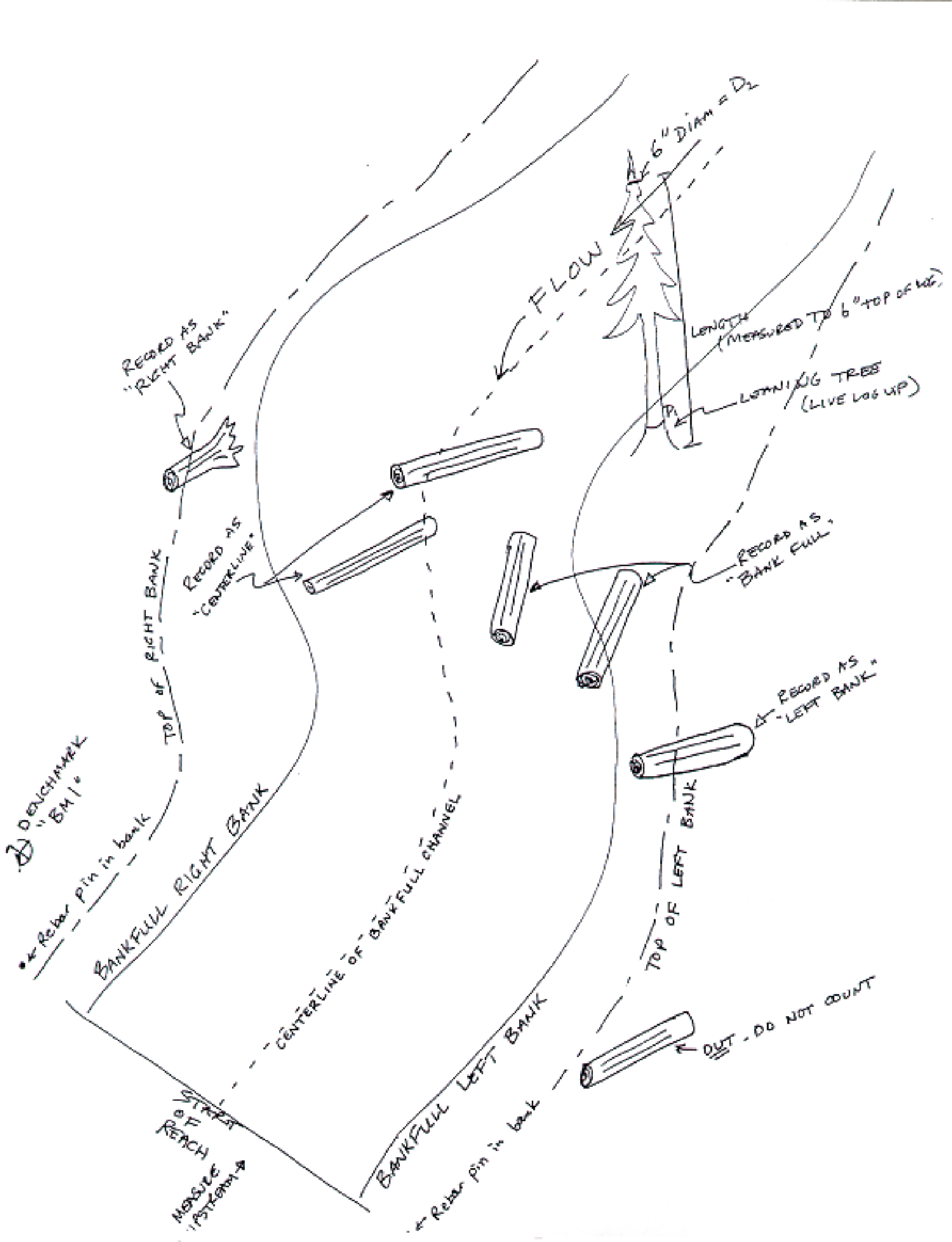


EXAMPLE:



A: LOCATION = 1 (BANKFULL)
TYPE = 2 (SNAG)
DIMENSIONS = 30" x 6" x 93'

B: LOCATION = 3 (LEFT BANK)
TYPE = 2 (SNAG)
DIMENSIONS = 25" x 18" x 55'


6" DIAM = D2
FLOW
LENGTH (MEASURED TO 6" TOP OF WOOD)
LEANING TREE (LIVE LOG UP)
P1
RECORD AS "RIGHT BANK"
RECORD AS "CENTERLINE"
RECORD AS "BANK FULL"
RECORD AS "LEFT BANK"
TOP OF RIGHT BANK
BANKFULL RIGHT BANK
BENCHMARK "BM1"
Rebar pin in bank
CENTERLINE OF BANKFULL CHANNEL
TOP OF LEFT BANK
BANKFULL LEFT BANK
OUT - DO NOT COUNT
Rebar pin in bank
STAKE AT END OF REACH
MEASURE UPSTREAM

ID #	Station	Date	Log CuFt	Root Wad CuFt	Total CuFt	Pieces
SYP WAA	Bear Mattole WAA					
13	1 Harmonica 1	10/28/97	401.2	0.0	401.2	7.0
	1 Bear River 1	10/10/97	178.0	382.4	560.4	2.4
134	Pullen 1	11/4/97	497.4	201.0	698.3	5.2
SYP WAA	Eel WAA					
130	Shively 1	8/7/97	107.8	0.0	107.8	0.7
	2 Larabee 1	10/24/97	60.7	54.8	115.4	1.3
122	Newman 1	8/12/97	121.0	8.5	129.6	1.4
115	Strongs 2	8/5/97	212.9	36.9	249.8	3.3
106	Monument 2	10/3/97	415.5	166.8	582.4	5.6
124	Howe 1	8/6/97	642.7	153.7	796.4	0.8
	4 Nanning 1	10/6/97	841.7	165.9	1,007.6	13.9
105	Cow 1 (93% OG)	10/23/97	1,063.1	124.2	1,187.4	3.3
103	Canoe 1 (62% OG)	10/17/97	1,418.5	127.9	1,546.4	5.7
102	Squaw 1 (61% OG)	10/10/97	1,669.8	108.8	1,778.6	3.0
107	BearCr2	10/23/97	1,311.3	667.3	1,978.6	17.4
SYP WAA	Humboldt WAA					
36	Freshwater 6	8/18/97	131.2	2.4	133.5	2.6
18	Little Freshwater 1	10/1/97	293.3	53.6	346.9	3.4
14	N Fk Elk R 1	9/24/97	531.9	0.9	532.8	5.3
19	Graham Gulch 1	9/25/97	641.4	38.6	680.0	5.9
15	S Fk Freshwater 1	9/25/97	655.3	40.2	695.6	7.3
135	McCready	10/24/97	844.5	52.2	896.7	10.7
12	Salmon 1	10/14/97	5,347.9	535.3	5,883.2	11.6
SYP WAA	VanDuzen WAA					
3	Root 1	10/27/97	146.2	85.9	232.2	4.2
112	Hely 1	5/14/97	357.0	91.9	448.9	4.7
111	Grizzley 1	10/21/97	492.5	322.6	815.1	4.8
SYP WAA	Yager WAA					
11	N Fk Yager 1	10/24/97	93.9	7.4	101.3	1.0
9	Lawrence 1	9/23/97	278.8	134.6	413.4	2.3

Stream Bed Surveys

?4-Apr-98

#	Station	Planning Watershed	Date	Slope %	CV %	Length	Agradation or Degradation (Feet) since last survey	Comments
Bear Mattole WAA								
1	Bear River 1	Beer Bottle	8/8/97	1.1%	1.00%	1.000		
13	1 Harmonica 1	Happy Valley	10/29/97	1.9%	0.81%	1.000		
134	Pullen 1	Happy Valley	11/3/97	3.0%	0.85%	1.000		
		Bear River Sub Watershed		2.0%	0.89%	**1,000**		
		Bear Mattole WAA		2.0%	0.89%	**1.000**		
Eel WAA								
4	Nanning 1	Dean Creek	10/3/97	2.1%	0.90%	1.000		
137	Cuneo	Fox Camp	10/31/96	7.7%	0.58%	477		Large landslides in park. Has been logged
124	Howe 1	Howe Creek	8/6/97	1.9%	0.92%	736		
2	Larabee 1	Larabee	8/15/97	0.7%	2.35%	1.000		
115	Strongs 2	Newberg	8/5/97	1.9%	1.16%	522		
107	Bear Cr 2	Pepper-wood	8/4/97	1.7%	0.43%	1,000		
130	Shively 1	Pepperwood	8/7/97	1.1%	0.83%	570		
106	Monument 2	Scotia	10/9/96	2.7%	1.08%	800		
106	Monument 2	Scotia	9/30/97		1.03%	998	0.800	
122	Newman 1	White House	8/12/97	1.5%	0.87%	577		
		Eel Sub Watershed		2.4%	**1.01%**	768	0.800	
102	Squaw 1 (61% OG)	Fox Camp	10/22/96	0.8%	0.94%	657		Virgin OG in Park
102	Squaw 1 (61% OG)	Fox Camp	10/7/97		0.71%	700	1.910	Virgin OG in Park
103	Canoe 1 (62% OG)	Myers Flat	10/21/96	1.6%	1.55%	976		Virgin OG in Park
103	Canoe 1 (62% OG)	Myers Flat	9/25/97		1.80%	950	0.190	Virgin OG in Park
105	cow 1 (93% OG)	Weott	10/23/96	2.1%	1.16%	644		Virgin OG in Park
105	cow 1 (93% OG)	Weott	9/25/97		0.70%	607	1.030	Virgin OG in Park
		Reference Sub Watershed		**1.5%**	**1.14%**	756	1.043	
		Eel WAA		**2.1%**	**1.06%**	763	0.982	
Humboldt WAA								
14	N Fk Elk R 1	Scout Camp	10/28/96	0.1%	0.92%	1,040		
14	N Fk Elk R 1 Scout	Camp	9/25/97	0.1%	0.91%	1.040	0.160	
		Elk Sub Watershed		**0.1%**	**0.92%**	**1,040**	**0.160**	
18	Little Freshwater 1	Camp 12	9/20/97	0.9%	0.83%	997		
15	S Fk Freshwater 1	Camp 12	9/18/97	1.8%	2.23%	968		
135	McCready	Eddysville	10/30/96	1.4%	1.10%	744		
35	McCready	Eddysville	9/25/97		1.44%	552	-0.380	
34	Freshwater 4	Freshwater Creek	10/10/96	*0.9%*	1.17%	805		

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#	Station	Planning Watershed	Date	Slope %	CV %	Length	Agradation or Degradation (Feet) since last survey	Comments
34	Freshwater 4	Freshwater Creek	9/25/97			870	-0.900	
19	Graham Gulch 1	Freshwater Creek	9/15/97	1.5%	0.62%	712		
		Freshwater Sub Watershed		**1.3%**	**1.23%**	**807**	**-0.640**	
12	Salmon 1	Upper Salmon Creek	10/16/96	1.6%	1.20%	462		
12	Salmon 1	Upper Salmon Creek	10/14/97		**1.20%**	500	-0.580	
		Salmon Sub Watershed		**1.6%**	**1.20%**	**481**	**-0.580**	
		Humboldt WAA		**1.0%**	**1.16%**	**790**	**-0.425**	
	VanDuzen WAA							
108	Cummings 1	Cummings	11/11/97	**3.7%**	**1.19%**	1,000		
111	Grizzley 1	Grizzly Creek	10/20/97	1.5%	0.98%	1.000		Random
112	Hely 1	Hely Creek	10/18/96	**0.2%**	**0.12%**	490		
112	Hely 1	Hely Creek	9/25/97					
3	Root 1	Root Creek	10/27/97	1.1%	1.30%	753		
		Van Duzen Sub Watershed		**1.6%**	**0.90%**	**811**		
		VanDuzen WAA		**1.6%**	**0.90%**	**811**		
	Yager WAA							
5	Yager 1	Camp	10/14/96	1.1%	2.67%	1,067		
5	Yager 1	Camp	10/15/97			1.100	-0.900	
11	N Fk Yager 1	North Fork Yager Cre	10/11/96	0.8%	1.15%	1,000		
11	N Fk Yager 1	North Fork Yager Cre	9/25/97		1.01%	1,000	-0.740	
9	Lawrence 1	Side 8	9/19/97	0.6%	1.08%	1,195		
		Yager Sub Watershed		**0.8%**	**1.48%**	**1,072**	**-0.820**	
		Yager WAA		**0.8%**	**1.48%**	**1,072**	**-0.820**	
	ALL WAA'S	**Minimum**		**0.1%**	**0.12%**	**462**	**-0.900**	
		Maximum		**7.7%**	**2.67%**	**1,195**	**1.910**	
		Average		**1.6%**	**1.10%**	**834**	**0.059**	

Stream Assessments

24-Apr-98

All (Mad to Mattole) Watershed Assessment Area

PALCO Ownership

Hydrologic Unit / Planning Watershed / Creek	PNMCD #	Year	Total Feet	% Pools	Pools per Mile	Backwater Pools per Mile	Mean Pool Depth	Maximum Pool Depth	Residual Pool Volume	Canopy Cover %	Embeddedness
Hydrologic Unit: Elk River											
Planning Watershed: Elkhead											
SF Elk River	V6033228	1994	3,865	31%	64.2	8.2	0.89	1.73	213	86.5%	2.45
Elkhead	155	Units	3,865	31%	64.2	8.2	0.89	1.73	213	86.5%	2.45
Planning Watershed: Scout Camp											
BRIDGE CREEK	V6003849	1990	1.926	43%	68.5	24.7	1.52	2.30	410	73.4%	2.69
MCWHINNEY CREEK	V6020792	1990	781	79%	135.2	54.1	1.20	1.72	556	82.8%	1.94
N.FRK.ELK R.	V6032061	1990	1,924	27%	54.9	0.0	1.54	2.71	618	75.4%	3.00
S.BRANCH N.FORK EL	V6033103	1990	7.497	40%	114.8	29.6	1.08	1.78	180	60.8%	2.19
Scout Camp	507	Units	12,128	41%	99.3	25.7	1.18	1.91	277	65.2%	2.29
Planning Watershed: Turkey Foot											
Doe Creek	V6009264	1994	3.132	18%	65.7	8.4	1.03	1.82	105	92.6%	2.88
Little NF Elk	V6018653	1994	1,790	24%	91.4	8.8	0.98	1.78	79	94.1%	3.16
N. BRANCH N. FORK E	V6032040	1990	3,596	56%	114.5	16.2	1.23	1.92	352	82.4%	2.49
Turkev Foot	373	Units	8.518	35%	*91.7*	11.8	1.13	1.86	230	88.6%	2.73
Elk River	1,035	Units	24,511	37%	91.1	18.1	1.13	1.88	253	76.8%	2.46
Hydrologic Unit: Freshwater Cr											
Planning Watershed: Camp 12											
Little Freshwater Creek	V6018508	1994	6,302	56%	65.4	1.7	1.06	2.02	563	86.4%	2.46
SOUTH FORK FRESHW	V6033234	1994	11,734	38%	82.3	3.6	0.86	1.76	184	96.5%	2.05
Graham Gulch	V830233453	1993	104		0.0	50.8				88.6%	4.00
Camp 12	603	Units	18,140	44%	76.0	3.2	0.92	1.84	298	93.5%	2.18
Planning Watershed: Eddysville											

Hydrologic Unit Planning Watershed Creek	PNMCD #	Year	Total Feet	% Pools	Pools per Mile	Backwater Pools per Mile	Mean Pool Depth	Maximum Pool Depth	Residual Pool Volume	Canopy Cover %	Embeddedness
McCready Gulch	V830233456	1994	3,470	45%	108.0	0.0	0.69	1.61	136	95.9%	2.32
Eddysville	159 Units		3,470	45%	108.0	0.0	0.69	1.61	136	95.9%	2.32
Planning Watershed: Freshwater Creek											
Graham Gulch	V830233453	1993	5.574	24%	49.3	2.8	0.97	2.03	195	89.3%	3.28
Freshwater Creek	134 Units		5,574	24%	49.3	2.8	0.97	2.03	195	89.3%	3.28
Freshwater Cr	896 Units		27,184	40%	74.6	2.7	0.88	1.82	254	93.3%	2.34
Humboldt WAA	1,931 Units		51,695	39%	82.4	10.0	1.01	1.85	254	84.5%	2.41
Hydrologic Unit: Lawrence Cr											
Planning Watershed: Bell Creek											
LAWRENCE CREEK, U	V18010105013	1991	5,573	32%	20.8	0.0	1.75	3.59	2295	48.2%	2.04
BELL CREEK	V6030327	1991	3,996	26%	34.4	1.3	1.60	3.01	638	68.5%	2.77
Bell Creek	125 Units		9,569	29%	26.5	0.6	1.67	3.28	1398	58.6%	2.43
Planning Watershed: Booths Run											
LAWRENCE CREEK, U	V18010105013	1991	16,908	12%	11.2	0.6	2.41	4.25	2246	37.4%	2.86
BOOTHS RUN	V6030429	1991	9,661	15%	21.3	0.0	1.34	2.60	488	39.5%	2.49
FISH CREEK	V6031090	1991	5,626	34%	70.4	4.7	0.98	1.73	141	72.9%	2.06
Booths Run	517 Units		32.195	17%	24.6	1.1	1.42	2.56	736	48.8%	2.37
Planning Watershed: Lawrence Creek											
LAWRENCE CREEK, U	V18010105013	1991	4,995	45%	35.9	1.1	1.32	2.52	1403	50.0%	2.26
Lawrence Creek	73 Units		4,995	45%	35.9	1.1	1.32	2.52	1403	50.0%	2.26
Planning Watershed: Shaw Creek											
SHAW CREEK	V6032604	1993	16,325	27%	51.1	1.3	1.16	2.24	300	64.1%	2.82
Shaw Creek	448 Units		16,325	27%	51.1	1.3	1.16	2.24	300	84.1%	2.82
Planning Watershed: Side 8											
LAWRENCE CREEK, U	V18010105013	1991	25.105	16%	7.8	0.0	2.46	4.54	5049	33.8%	2.51

Hydrologic Unit / Planning Watershed / Creek	PNMCD #	Year	Total Feet	% Pools	Pools per Mile	Backwater Pools per Mile	Mean Pool Depth	Maximum Pool Depth	Residual Pool Volume	Canopy Cover %	Embedded-ness
CORNER CREEK	V6007395	1991	2,339	11%	27.1	0.0	1.10	2.08	140	89.2%	2.92
SHAW CREEK	V6032604	1993	43		0.0	736.7				85.0%	2.83
Side 8	280 Units		**27,487**	**15%**	**9.4**	**1.2**	**2.13**	**3.94**	**3847**	**47.7%**	**2.64**
Lawrence Cr	1,443 Units		**90,571**	**21%**	**25.6**	**1.1**	**1.42**	**2.68**	**1051**	**60.5%**	**2.56**
Hydrologic Unit: Middle Yager											
Planning Watershed: Bald Jessie											
YAGER CREEK	V18010105010	1991	64		0.0	0.0				90.0%	
YAGER CREEK, S.F.	V18010105011	1991	6,631	16%	23.9	3.2	1.68	3.01	674	37.8%	2.96
YAGER CREEK, N.F.	V18010105012	1991	70		0.0	75.4				25.0%	2.00
Bald Jessie	130 Units		**6,765**	**16%**	**23.4**	**3.9**	**1.68**	**3.01**	**674**	**37.7%**	**2.93**
Planning Watershed: Humphrey											
YAGER CREEK, M.F.	V6031888	1991	2,768	22%	38.2	0.0	1.16	2.02	189	43.5%	2.30
Humphrey	48 Units		**2,768**	**22%**	**38.2**	**0.0**	**1.16**	**2.02**	**189**	**43.5%**	**2.30**
Middle Yager	178 Units		**9,533**	**18%**	**27.7**	**2.8**	**1.47**	**2.62**	**480**	**39.2%**	**2.67**
Hydrologic Unit: North Yager											
Planning Watershed: North Fork Yager Creek											
YAGER CREEK, N.F.	V18010105012	1991	14,011	20%	12.1	0.4	2.52	5.13	4821	20.4%	2.84
North Fork Yager Creek	132 Units		**14,011**	**20%**	**12.1**	**0.4**	**2.52**	**5.13**	**4821**	**20.4%**	**2.84**
North Yager	132 Units		**14,011**	**20%**	**12.1**	**0.4**	**2.52**	**5.13**	**4821**	**20.4%**	**2.84**
Hydrologic Unit: Lower Yager											
Planning Watershed: Camp											
YAGER CREEK	V18010105010	1991	24,683	23%	11.6	0.0	3.34	5.54	10320	9.5%	2.92
COOPER MILL CREEK	V6007296	1990	7,509	36%	71.7	3.5	0.99	1.74	217	42.2%	1.95
Camp	465 Units		**32,192**	**26%**	**25.6**	**0.8**	**1.80**	**3.06**	**3715**	**29.2%**	**2.21**
Planning Watershed: Yager Creek											

Hydrologic Unit Planning Watershed Creek	PNMCD #	Year	Total Feet	% Pools	Pools per Mile	Backwater Pools per Mile	Mean Pool Depth	Maximum Pool Depth	Residual Pool Volume	Canopy Cover %	Embeddedness
YAGERCREEK	V18010105010	1991	33,250	20%	9.7	0.2	2.17	4.38	6386	15.6%	3.26
YAGER CREEK, N.F.	V18010105012	1991	5.786	8%	5.5	0.0	2.90	5.10	5431	18.4%	3.17
LAWRENCE CREEK, U	V18010105013	1991	238	35%	44.4	643.4	4.25	5.15	2009	53.9%	3.13
BLANTON CREEK	V6003105	1991	4.195	21%	52.9	8.8	1.32	2.34	201	66.1%	2.11
YAGER CREEK, M.F.	V6031888	1991	171	6%	30.9	30.9	0.70	1.90	39	31.4%	2.00
STRAWBERRY CREEK	V830236239	1991	3,818	23%	76.1	5.5	0.82	1.31	81	82.4%	2.53
Yager Creek	630 Units		47,458	19%	18.6	4.7	1.55	2.87	2629	42.7%	2.77
Lower Yager	1,095 Units		79,650	22%	21.4	3.1	1.68	2.96	3153	37.0%	2.48
Yager WAA	2,848 Units		193,765	21%	23.0	2.0	1.57	2.87	1964	48.2%	2.54
Hydrologic Unit: VanDuzen WAA											
Planning Watershed: Cummings											
CUMMINGS CREEK	V6008102	1991	18,688	9%	16.7	0.0	1.02	1.92	248	78.5%	2.51
Cummings	169 Units		18,688	9%	16.7	0.0	1.02	1.92	248	78.5%	2.51
Planning Watershed: Grizzly Creek											
GRIZZLY CREEK	V6031265	1991	10,471	21%	29.8	0.5	1.53	2.61	873	52.3%	2.53
Grizzly Creek	194 Units		10,471	21%	29.8	0.5	1.53	2.61	873	52.3%	2.53
Planning Watershed: Hely Creek											
HELY CREEK	V6014493	1991	7,582	16%	37.6	2.1	0.98	1.92	120	90.5%	2.35
Hely Creek	173 Units		7,582	16%	37.6	2.1	0.98	1.92	120	90.5%	2.35
Planning Watershed: Hydesville											
YAGERCREEK	V18010105010	1991	3,641	13%	2.9	0.0	2.75	5.95	6134	10.0%	4.00
Hydesville	13 Units		3,641	13%	2.9	0.0	2.75	5.95	6134	10.0%	4.00
Planning Watershed: Root Creek											
ROOT CREEK	V6027412	1991	13,824	25%	39.3	2.3	1.17	2.37	409	78.8%	2.86
Root Creek	269 Units		13,824	25%	39.3	2.3	1.17	2.37	409	78.8%	2.86

Hydrologic Unit Planning Watershed Creek	PNMCD #	Year	Total Feet	% Pools	Pools per Mile	Backwater Pools per Mile	Mean Pool Depth	Maximum Pool Depth	Residual Pool Volume	Canopy Cover %	Embedded-ness
Planning Watershed: Stevens Creek											
GRIZZLY CREEK	V6031265	1991	1,394	7%	11.4	0.0	1.13	2.13	267	49.5%	1.67
STEVENSCREEK	V6034080	1991	5,063	27%	54.2	6.3	1.09	2.23	262	67.4%	1.58
Stevens Creek	131 Units		6,457	23%	45.0	4.9	1.09	2.22	263	65.5%	1.59
VanDuzen WAA	949 Units		60,663	17%	28.9	1.4	1.17	2.25	426	72.7%	2.45
VanDuzen WAA	949 Units		60,663	17%	28.9	1.4	1.17	2.25	426	72.7%	2.45
Hydrologic Unit: Eel Delta											
Planning Watershed: Dean Creek											
Dean Creek	V6008583	1992	1,612	33%	101.5	19.7	0.57	1.25	67	95.1%	3.08
NANNING CREEK	V830236268	1992	7,600	25%	54.9	3.5	0.86	1.57	105	71.7%	3.20
Dean Creek	284 Units		9.212	27%	63.0	6.3	0.78	1.48	94	78.0%	3.17
Planning Watershed: Newberg											
N.F. STRONGS CREEK --	V6023210	1993	5,742	57%	78.2	2.8	1.29	2.43	372	93.9%	3.70
Newberg	158 Units		5,742	57%	78.2	2.8	1.29	2.43	372	93.9%	3.70
Eel Delta	442 Units		14,964	38%	68.9	4.9	1.00	1.90	215	83.7%	3.41
Hydrologic Unit: Larabee Cr											
Planning Watershed: Boulder											
LARABEE CREEK	V18010105008	1992	2,970	33%	17.8	0.0	1.31	3.03	2461	9.4%	2.40
Boulder	26 Units		2.970	33%	17.8	0.0	1.31	3.03	2461	9.4%	2.40
Planning Watershed: Larabee											
LARABEE CREEK	V18010105008	1992	44,529 --	29%	15.4	0.2	1.82	3.87	4422	9.2%	2.09
Arnold Creek	V6000877	1992	1,248	15%	33.8	0.0	0.94	1.51	79	99.4%	2.88
BALCOM CREEK	V6001233	1992	1,787	49%	168.4	20.7	1.03	1.63	65	96.6%	3.71
CARSON CREEK	V6005466	1992	4,846	25%	75.2	5.4	0.78	1.49	59	83.8%	2.80
Scott Creek	V6028804	1992	1,320	37%	68.0	4.0	1.20	1.91	315	90.7%	2.86

Hydrologic Unit Planning Watershed Creek	PNMCD #	Year	Total Feet	% Pools	Pools per Mile	Backwater Pools per Mile	Mean Pool Depth	Maximum Pool Depth	Residual Pool Volume	Canopy Cover %	Embeddedness
Larabee	696 Units		53,730	29%	27.6	1.5	1.34	2.64	2095	54.2%	2.66
Larabee Cr	722 Units		56,700	30%	27.1	1.4	1.34	2.66	2107	52.6%	2.65
Hydrologic Unit: Lower Eel											
Planning Watershed: Pepperwood											
BEAR CREEK	V6001770	1991	15,918	21%	37.8	1.3	1.45	2.42	380	64.5%	2.34
DARNELL CREEK	V6008345	1992	1,016	26%	78.0	0.0	0.99	1.94	99	78.8%	4.00
GREENLAW CREEK	V6013398	1991	3,515	20%	67.6	4.5	0.78	1.38	70	77.9%	2.66
SHIVELY CREEK	V6029405	1992	8,185	35%	29.7	3.9	0.75	1.90	209	67.9%	2.80
Pepperwood	574 Units		26.634	25%	40.6	2.4	1.14	2.06	262	[illegible]	2.61
Planning Watershed: Red Crest											
Allen Creek	V6000411	1992	1,898	14%	50.1	0.0	0.77	1.48	57	98.7%	1.44
CHADD CREEK	V6005946	1992	10.854	22%	44.8	0.5	0.96	1.61	155	86.3%	2.49
WEBER CREEK	V6037768	1992	2,215	10%	38.1	2.4	0.68	1.43	45	52.4%	2.76
Red Crest	513 Units		14,966	19%	44.5	0.7	0.89	1.57	127	83.0%	2.37
Planning Watershed: Scotia											
Monument Creek	V6021843	1993	5,313	14%	20.9	0.0	0.96	2.04	279	81.0%	3.38
Scotia	96 Units		5,313	14%	20.9	0.0	0.96	2.04	279	61.0%	3.38
Planning Watershed: Stafford											
DINNER CREEK	V6009152	1990	4,961	27%	60.7	14.9	0.72	1.05	59	63.6%	3.57
JORDAN CREEK	V6016720	1991	7,955	15%	25.9	1.3	0.96	2.11	153	74.8%	1.82
KILER CREEK	V6017172	1990	4,080	23%	68.6	9.1	0.80	1.18	61	51.8%	3.34
TWIN CREEK	V6036515	1990	5,899	25%	51.9	1.8	0.94	1.50	129	46.5%	3.30
STITZ CREEK	V830236274	1992	1,982	24%	55.9	2.7	1.04	2.20	210	81.6%	3.19
Stafford	760 Units		24,676	22%	46.4	5.5	0.86	1.48	107	61.2%	3.09
Lower Eel	1,943 Units		73,769	22%	42.6	2.9	0.97	1.73	174	70.1%	2.77

Hydrologic Unit Planning Watershed Creek	PNMCD #	Year	Total Feet	% Pools	Pools per Mile	Backwater Pools per Mile	Mean Pool Depth	Maximum Pool Depth	Residual Pool Volume	Canopy Cover %	Embeddedness
Hydrologic Unit: Sequoia											
Planning Watershed: Line Gulch											
DOBBYN CREEK	V18010105007	1995	1.146	48%	27.6	0.0	2.27	4.75	3571	38.2%	2.33
Line Gulch	11 Units		1,146	46%	27.6	0.0	2.27	4.75	3571	38.2%	2.33
Planning Watershed: Lower South Dobbyn Cr											
SOUTH DOBBYN CREE	VPVA94021501	1995	1,054	27%	10.0	0.0	1.50	4.05	3781	7.5%	3.00
Lower South Dobbyn Cre	8 Units		1,054	27%	10.0	0.0	1.50	4.05	3781	7.5%	3.00
Planning Watershed: McCann											
THOMPSON CREEK	V6035661	1992	6,893	15%	46.0	3.1	1.10	1.74	124	50.9%	1.83
UNNAMED TRIB OFF T	V830236728	1992	2,889	8%	32.9	0.0	0.82	1.38	46	77.8%	2.06
McCann	371 Units		9.762	13%	42.1	2.2	1.03	1.65	106	56.1%	1.89
Planning Watershed: North Dobbyn Creek											
SOUTH DOBBYN CREE	VPVA94021501	1995	2,503	23%	12.7	0.0	2.43	4.80	4478	10.8%	2.75
North Dobbvn Creek	18 Units		2.503	23%	12.7	0.0	2.43	4.80	4478	10.8%	2.75
Planning Watershed: White House											
KAPPLE	V6016879	1992	3,683	11%	41.6	0.0	0.80	1.42	36	63.3%	3.36
THOMPSON CREEK	V6035661	1992	73		0.0	217.0				31.5%	3.00
White House	146 Units		3,756	11%	40.6	4.2	0.80	1.42	36	61.1%	3.32
Sequoia	554 Units		18,240	17%	35.0	2.0	1.12	1.95	538	56.2%	2.35
Eel WAA	3,661 Units		163,663	26%	38.6	2.5	1.08	2.01	686	66.2%	2.81
Hydrologic Unit: Bear River											
Planning Watershed: Beer Bottle											
BEER BOTTLE CREEK	V6002090	1996	1,044	28%	75.9	0.0	0.26	2.07	0	36.8%	1.73
BEAR RIVER TRIB D	V830237877	1996	1,075	39%	137.5	19.6	0.30	1.70	40	32.9%	2.78
Beer Bottle	101 Units		2,119	34%	107.1	10.0	0.28	1.83	26	34.3%	2.45

Hydrologic Unit Planning Watershed Creek	PNMCD #	Year	Total Feet	% Pools	Pools per Mile	Backwater Pools per Mile	Mean Pool Depth	Maximum Pool Depth	Residual Pool Volume	Canopy Cover %	Embedded-ness
Planning Watershed: Peaked Creek											
PEAKEDCREEK	V830237876	1996	5,255	25%	66.3	0.0	0.17	1.85	26	25.9%	2.60
Peaked Creek	146 Units		5.255	25%	66.3	0.0	0.17	1.65	26	25.9%	2.60
Bear River	247 Units		7,374	27%	76.0	2.9	0.21	1.84	26	29.3%	2.54
Hydrologic Unit: Upper NF Mattole											
Planning Watershed: Rattlesnake Creek											
RATTLESNAKECREEK	V6026268	1991	22,138	16%	28.1	1.0	1.40	2.61	377	16.5%	2.94
Rattlesnake Creek	365 Units		22,136	16%	28.1	1.0	1.40	2.61	377	16.5%	2.94
Planning Watershed: Tent City											
DEVILS CREEK	V6008934	1991	805	24%	26.2	0.0	1.02	2.03	105	22.5%	3.00
OIL CREEK	V6023613	1991	8,996	11%	20.5	2.9	1.03	1.87	246	12.0%	3.00
GREEN RIDGE CREEK	V830238020	1991	3,710	10%	19.9	0.0	0.97	1.71	273	29.7%	2.91
Tent Citv	205 Units		13.511	11%	20.7	2.0	1.01	1.64	242	15.5%	2.96
Upper NF Mattole	570 Units		35,649	14%	25.3	1.3	1.28	2.37	335	16.1%	2.95
Bear Mattole WAA	817 Units		43,023	16%	34.4	1.6	0.66	2.16	215	20.1%	2.78
All (Mad to Mattole)	10,206 Units		512,626	23%	35.7	2.6	1.17	2.22	634	61.5%	2.60

Stream Monitoring

All (Mad to Mattole) Watershed Assessment Area

24-Apr-98

Hydrologic Unit / Planning Watershed / Station	Station #	Year	Cobbel D84 +	Cobbel D50 +	Fine Sediment <0.85	Fine Sediment <4.7	Complexity CV% +	LWD CuFt/ 100	Macroinvertebrates Richness +	Macroinvertebrates Simpson +	Macroinvertebrates Hilsenhoff	MWAT C	MWAT F	7 Day Avg. C	7 Day High F	High Temp. C	High Temp. F
Hydrologic Unit: Elk River																	
Planning Watershed: Elkhead																	
Little S Fk Elk R 1	13	1994	105	46					34	0.94	0.67						
Little S Fk Elk R 1	13	1995	153	60					28	0.93	1.01						
Little S Fk Elk R 1	13	1996	149	63	19.3%	28.5%			29	0.93	1.05						
Little S Fk Elk R 1	13	1997	102	50					33	0.94	1.27						
Station Average	13		127	55	19.3%	28.5%			31	0.94	1.00						
Little S Fk Elk R 2	23	1994	410	96	28.1%	39.6%			32	0.94	0.88						
Little S Fk Elk R 2	23	1995	385	92					28	0.92	0.98					14.5	58.2
Little S Fk Elk R 2	23	1996	348	54	21.6%	30.6%			37	0.95	0.94						
Little S Fk Elk R 2	23	1997	174	55					44	0.94	1.38						
Station Average	23		329	74	24.8%	35.1%			35	0.94	1.04					14.5	58.2
S Fk Elk R 1	67	1994										14.3	57.7	14.9	58.9	15.1	59.2
S Fk Elk R 1	67	1995														16.0	60.9
S Fk Elk R 1	67	1996										14.7	58.5	15.9	60.7	16.5	61.7
Station Average	87											14.5	58.1	15.4	59.8	15.9	60.6
Elkhead		11 Units	228	85	23.0%	32.9%			33	0.94	**1.02**	**14.5**	**58.1**	**15.4**	**59.8**	**15.5**	**60.0**
Planning Watershed: Scout Camp																	
N Fk Elk R 1	14	1994	15	7	37.7%	62.6%			21	0.79	2.15					22.7	72.8
N Fk Elk R 1	14	1995	15	8					18	0.64	1.86					19.5	67.1
N Fk Elk R 1	14	1996	18	10	34.0%	60.1%	0.9%		18	0.78	1.97	17.8	64.1	19.1	66.3	19.4	66.9
N Fk Elk R 1	14	1997	23	15			0.9%	533	21	0.76	1.88						
Station Average	14		18	10	35.8%	61.4%	0.9%	533	20	0.74	1.96	17.8	64.1	19.1	66.3	20.5	68.9
Scout Camp		4 Units	**18**	**10**	**35.8%**	**61.4%**	**0.9%**	533	20	0.74	**1.96**	**17.8**	**64.1**	**19.1**	**66.3**	**20.5**	**68.9**
Planning Watershed: Turkey Foot																	
N Fk Elk R 2	90	1995														16.1	60.9
N Fk Elk R 2	90	1996										14.9	58.8	15.8	60.5	16.2	61.2
Station Average	90											14.9	58.8	15.8	60.5	16.1	61.1
N Br Elk R 1	91	1995														15.7	60.3
N Br Elk R 1	91	1996										14.8	58.5	16.0	60.7	16.3	61.3
Station Average	91											14.8	58.5	16.0	60.7	16.0	60.8

Hydrologic Unit / Planning Watershed / Station	Station #	Year	Cobbel D84 +	Cobbel D50 +	Fine Sediment <0.85	Fine Sediment <4.7	Complexity CV% +	LWD CuFt/ 100'	Macroinvertebrates Richness +	Macroinvertebrates Simpson +	Macroinvertebrates Hilsenhoff	MWAT C	MWAT F	7 Day Avg. High C	7 Day Avg. High F	High Temp. C	High Temp. F
Turkey Foot		4 Units										**14.8**	**58.7**	**15.9**	**60.6**	**16.1**	**60.9**
Elk River		19 Units	**158**	**46**	**28.1%**	**44.3%**	**0.9%**	533	29	0.87	**1.34**	**15.3**	**59.5**	**16.4**	**61.4**	**17.1**	**62.8**
Hydrologic Unit: Freshwater Cr																	
Planning Watershed: Camp 12																	
S Fk Freshwater 1	15	1994	101	24	25.4%	50.5%			34	0.92	1.62						
S Fk Freshwater 1	15	1995	257	40					41	0.95	1.40						
S Fk Freshwater 1	15	1996		167	26.5%	45.4%			35	0.88	1.62						
S Fk Freshwater 1	15	1997	473	57			2.2%	696	34	0.91	1.45						
Station Average	15		277	72	25.9%	48.0%	2.2%	696	36	0.92	1.52						
Little Freshwater 1	18	1996	86	44	39.4%	53.5%			29	0.84	2.03						
Little Freshwater 1	18	1997	70	39			0.8%	347	36	0.86	1.69						
Station Average	18		78	42	39.4%	53.5%	0.8%	347	33	0.85	1.86						
Freshwater 2	32	1994	780	71	23.6%	31.9%			31	0.93	157						
Freshwater 2	32	1995	745	162					31	0.89	1.94						
Freshwater 2	32	1996	330	67	13.1%	28.9%			32	0.87	1.83						
Freshwater 2	32	1997	125	24					27	0.88	1.95						
Station Averaae	32		495	81	18.4%	30.4%			30	0.89	1.82						
Freshwater 3	33	1994	89	48	15.7%	25.4%			34	0.92	1.79						
Freshwater 3	33	1995	135	60					27	0.91	1.90					17.2	63.0
Freshwater 3	33	1996	106	46	14.6%	28.4%			28	0.91	1.80	16.2	61.1	18.2	64.8	18.4	65.0
Freshwater 3	33	1997	96	38					30	0.89	1.94						
Station Average	33		107	48	15.2%	26.9%			30	0.91	1.85	16.2	61.1	18.2	64.8	17.8	64.0
S Fk Freshwater 2	37	1994	108	47	21.8%	34.9%			33	0.92	1.53						
S Fk Freshwater 2	37	1995	133	46					37	0.89	1.93					15.8	60.5
S Fk Freshwater 2	37	1996	144	52	24.6%	41.3%			35	0.92	1.53						
S Fk Freshwater 2	37	1997	91	44					39	0.91	1.48						
Station Average	37		119	47	23.2%	38.1%			36	0.91	1.62					15.8	60.5
Camp 12		18 Units	228	60	22.7%	37.8%	**1.5%**	**521**	33	0.90	**1.72**	**16.2**	**61.1**	**18.2**	**64.8**	**17.1**	**62.8**
Planning Watershed: Eddysville																	
Clonev Gulch 1	92	1995														17.2	63.0
Clonev Gulch 1	92	1996										16.1	61.0	17.5	63.6	17.8	64.1
Station Average	92											16.1	61.0	17.5	63.6	17.5	63.5
McCreadv	135	1996	53	26	48.1%	66.8%	1.1%		29	0.89	1.44						
McCreadv	135	1997	44	15			1.4%	897	25	0.87	1.57						

Hydrologic Unit / Planning Watershed / Station	Station #	Year	Cobbel D84 +	Cobbel D50 +	Fine Sediment - <0.85	Fine Sediment - <4.7	Complexity CV% +	LWD CuFt/ 100'	Macroinvertebrates Richness +	Macroinvertebrates Simpson +	Macroinvertebrates Hilsenhoff	MWAT C	MWAT F	7 Day Avg. C	7 Day High C	High Temp. C	High Temp. F
Station Average	135		49	21	48.1%	66.8%	1.3%	897	27	0.88	1.51						
Eddysville		4 Units	**49**	**21**	**48.1%**	**66.8%**	**1.3%**	**897**	27	0.88	**1.51**	**16.1**	**61.0**	**17.5**	**63.6**	**17.5**	**63.5**
Planning Watershed: Freshwater Creek																	
Graham Gulch 1	19	1994	69	21	22.0%	37.0%			33	0.93	1.86						
Graham Gulch 1	19	1995	138	61					31	0.89	1.96					17.1	62.8
Graham Gulch 1	19	1996	102	27	29.2%	49.2%			28	0.86	2.22						
Graham Gulch 1	19	1997	65	20			0.6%	680	36	0.91	1.82						
Station Average	19		94	32	25.6%	43.1%	0.6%	680	32	0.90	1.97					17.1	62.8
Graham Gulch 2	20	1994	71	33	25.1%	40.0%			37	0.93	1.51						
Graham Gulch 2	20	1995	72	28					32	0.91	1.58						
Graham Gulch 2	20	1996	65	24	23.9%	47.8%			25	0.88	1.45						
Graham Gulch 2	20	1997	94	45					35	0.92	1.55						
Station Average	20		76	33	24.5%	43.9%			32	0.91	1.52						
Freshwater 4	34	1994	127	63	17.9%	27.5%			38	0.93	1.74						
Freshwater 4	34	1995	177	78					32	0.92	1.62					18.5	65.3
Freshwater 4	34	1996	56	24	20.1%	33.2%	1.2%		23	0.85	1.61						
Freshwater 4	34	1997	148	29					23	0.89	1.61						
Station Average	34		127	49	19.0%	30.3%	1.2%		29	0.90	1.65					18.5	65.3
Freshwater 5	35	1994	77	56	21.0%	34.1%			35	0.94	1.63						
Freshwater 5	35	1995	61	31					29	0.91	1.25						
Freshwater 5	35	1996	178	35	24.6%	49.0%			29	0.88	2.12						
Freshwater 5	35	1997	117	52					29	0.83	2.11						
Station Average	35		108	44	22.8%	41.6%			31	0.89	1.78						
Freshwater 6	36	1994	310	76	25.1%	50.8%			40	0.94	1.46						
Freshwater 6	36	1995	299	73					40	0.92	1.58					14.5	58.2
Freshwater 6	36	1996	265	48	23.4%	44.0%			30	0.91	1.63	14.3	57.7	15.8	60.5	16.6	61.8
Freshwater 6	36	1997	152	41				134	46	0.94	1.16						
Station Average	36		257	60	24.3%	47.4%		134	39	0.93	1.46	14.3	57.7	15.8	60.5	15.6	60.0
Freshwater Creek		20 Units	**132**	**43**	**23.2%**	**41.3%**	**0.9%**	407	33	0.90	1.67	14.3	57.7	15.8	60.5	16.7	62.0
Freshwater Cr		42 Units	**169**	**50**	**24.2%**	**41 .0%**	**1.2%**	**551**	32	0.90	**1.69**	**15.5**	**59.9**	**17.2**	**63.0**	**17.0**	**62.6**
Hydrologic Unit: Salmon Cr																	
Planning Watershed: Upper Salmon Creek																	
Salmon 1	12	1994	118	60	41.1%	54.7%			32	0.92	1.64						
Salmon 1	12	1995	185	56					34	0.90	1.05	14.0	57.3	14.7	58.4	15.4	59.8

Hydrologic Unit / Planning Watershed / Station	Station #	Year	Cobbel D84 +	Cobbel D50 +	Fine Sediment - <0.85	Fine Sediment - <4.7	Complexity CV% +	LWD CuFt/ 100'	Macroinvertebrates Richness +	Macroinvertebrates Simpson +	Macroinvertebrates Hilsenhoff	MWAT C	MWAT F	7 Day Avg. High C	7 Day Avg. High F	High Temp. C	High Temp. F
Salmon 1	12	1996	168	92	25.5%	33.2%	1.2%		29	0.91	1.67						
Salmon 1	12	1997	132	55			1.2%	5,883	34	0.89	1.67						
Station Average	12		151	66	33.3%	43.9%	1.2%	5,883	32	0.91	1.51	14.0	57.3	14.7	58.4	15.4	59.8
Salmon 2	21	1994	157	82	17.7%	33.7%			30	0.92	0.92						
Salmon 2	21	1995	160	93					30	0.87	0.74						
Salmon 2	21	1996	186	91	26.4%	44.2%			27	0.80	0.76						
Salmon 2	21	1997	175	77					31	0.89	1.15						
Station Average	21		170	86	22.1%	38.9%			30	0.87	0.89						
Salmon 3	22	1994	42	16	42.9%	55.3%			34	0.87	1.51						
Salmon 3	22	1995	140	52					32	0.87	2.00						
Salmon 3	22	1996	225	107	46.2%	60.9%			31	0.91	1.82						
Salmon 3	22	1997	134	64					40	0.92	1.91						
Station Average	22		135	60	44.6%	58.1%			34	0.89	1.81						
Upper Salmon Creek		**12 Units**	152	70	33.3%	47.0%	1.2%	5,883	32	0.89	**1.40**	14.0	57.3	14.7	58.4	15.4	59.8
Salmon Cr		12 Units	**152**	**70**	**33.3%**	**47.0%**	**1.2%**	5,883	32	0.89	1.40	14.0	57.3	14.7	58.4	15.4	59.8
Humboldt WAA		**73 Units**	**164**	**53**	**26.6%**	**42.7%**	**1.2%**	**1,310**	**32**	**0.89**	**1.57**	**15.2**	**59.4**	**16.5**	**61.6**	**17.0**	**62.6**
Hydrologic Unit: Lawrence Cr																	
Planning Watershed: Bell Creek																	
Bell 1	117	1995	95	53					34	0.89	1.52						
Bell 1	117	1996	107	59	20.8%	34.6%			26	0.84	1.46	14.9	58.8	15.8	60.4	16.4	61.5
Bell 1	117	1997	86	42					32	0.90	1.89						
Station Average	117		96	51	20.8%	34.6%			31	0.88	1.62	14.9	58.8	15.8	60.4	16.4	61.5
Bell Creek		3 Units	**96**	**51**	**20.8%**	**34.6%**			**31**	0.88	1.62	**14.9**	**58.8**	**15.8**	**60.4**	**16.4**	**61.5**
Planning Watershed: Booths Run																	
PL81	42	1980			5.0%	20.0%			17	0.73	1.60						
PL81	42	1981			6.0%	19.0%											
Station Average	42				5.5%	19.5%			17	0.73	1.60						
Lawrence F&G 1	48	1991			10.3%	32.6%											
Lawrence F&G 1	48	1992														22.8	73.0
Lawrence F&G 1	48	1993														20.6	69.0
Lawrence F&G 1	48	1994							28	0.80	1.50					20.1	68.2
Station Average	48				10.3%	32.6%			28	0.80	1.50					21.1	70.1
Booths Run		6 Units			**7.1%**	**23.9%**			23	0.77	1.55					21.1	70.1

Hydrologic Unit / Planning Watershed / Station	Station #	Year	Cobbel D84 +	Cobbel D50 +	Fine Sediment - e0.85 <4.7	Fine Sediment - <4.7	Complexity CV% +	LWD CuFt/ 100'	Macroinvertebrates Richness +	Macroinvertebrates Simpson +	Macroinvertebrates Hilsenhoff	MWAT C	MWAT F	7 Day Avg. High C	7 Day Avg. High F	High Temp. C	High Temp. F
Planning Watershed: Lawrence Creek																	
PL80	47	1980			12.0%	21.0%			11	0.61	1.39						
PL80	47	1981			14.0%	35.0%											
PL80	47	1995														17.6	63.8
PL80	47	1996										17.2	63.0	20.2	68.4	20.8	69.4
Station Average	47				13.0%	28.0%			11	0.61	1.39	17.2	63.0	20.2	68.4	19.2	66.6
Lawrence Creek		4 Units			**13.0%**	**28.0%**			**11**	**0.61**	**1.39**	**17.2**	**63.0**	**20.2**	**68.4**	**19.2**	**66.6**
Planning Watershed: Shaw Creek																	
Shaw F&G 1	38	1991			26.9%	39.8%											
Shaw F&G 1	38	1994							32	0.90	1.64						
Station Average	38				26.9%	39.8%			32	0.90	1.64						
Shaw F&G 2	39	1991			24.7%	45.1%											
Shaw F&G 2	**39**	1994							25	0.62	1.93						
Station Average	39				24.7%	45.1%			25	0.62	1.93						
Shaw F&G 3	40	1991			25.6%	40.1%											
Shaw F&G 3	40	1994							29	0.86	1.87						
Shaw F&G 3	40	1996			13.7%	30.0%						16.5	61.6	17.9	64.1	18.4	65.2
Station Average	40				19.7%	35.0%			29	0.86	1.87	16.5	61.6	17.9	64.1	18.4	65.2
PL40	43	1980			9.0%	21.0%			13	0.68	1.23						
PL40	43	1981			3.0%	16.2%											
Station Average	43				6.0%	18.6%			13	0.68	1.23						
Shaw Creek		9 Units			**17.2%**	**32.0%**			25	0.76	**1.66**	**16.5**	**61.6**	**17.9**	**64.1**	**18.4**	**65.2**
Planning Watershed: Side 8																	
Lawrence 1	9	1994	290	**160**	23.9%	69.3%			35	0.91	1.76	18.5	65.3			21.0	69.7
Lawrence 1	9	1995	285	140					25	0.86	1.86						
Lawrence 1	9	1996	235	89	16.2%	39.2%			33	0.89	1.54						
Lawrence 1	9	1997	130	34			1.1%	413	29	0.89	1.83						
Station Average	9		235	106	20.1%	54.3%	1.1%	413	31	0.89	1.75	18.5	65.3			21.0	69.7
PL82	44	1980			9.0%	24.0%			8	0.65	1.47						
PL82	44	1981			11.0%	28.0%											
Station Average	44				10.0%	26.0%			8	0.65	1.47						
Lawrence F&G 2	49	1991			16.4%	39.9%											
Lawrence F&G 2	49	1994							24	0.82	1.68						
Lawrence F&G 2	49	1996			11.2%	33.5%											

Hydrologic Unit / Planning Watershed / Station	Station #	Year	Cobbel D84 +	Cobbel D50 +	Fine Sediment - <0.85	Fine Sediment - <4.7	Complexity CV% +	LWD CuFt/ 100'	Macroinvertebrates Richness +	Macroinvertebrates Simpson +	Macroinvertebrates Hilsenhoff	MWAT C	MWAT F	7 Day Avg. High C	7 Day Avg. High F	High Temp. C	High Temp. F
Station Average	49				13.8%	36.7%			24	0.82	1.68						
Lawrence F&G 3	50	1991			15.1%	41.4%											
Lawrence F&G 3	50	**1994**							32	0.79	1.57						
Station Average	50				15.1%	41.4%			32	0.79	**1.57**						
Lawrence F&G 4	51	1991			9.0%	23.2%											
Lawrence F&G 4	51	1994							34	0.88	1.78						
Station Average	51				9.0%	23.2%			34	0.88	1.78						
Lawrence F&G 5	52	1991			21 .O%	44.2%											
Lawrence F&G 5	52	1994							27	0.89	1.73						
Station Average	52				21 .O%	44.2%			27	0.89	1.73						
Lawrence F&G 6	53	1991			15.5%	36.7%											
Lawrence F&G 6	53	1992														22.2	72.0
Lawrence F&G 6	53	1994							25	0.76	**1.50**						
Lawrence F&G 6	53	1996			10.9%	34.3%											
Station Average	53				13.2%	35.5%			25	0.76	1.50					22.2	72.0
Comer Cr	88	1995														14.7	58.5
Comer Cr	88	1996										14.5	58.1	15.3	59.6	15.6	60.1
Station Average	88											14.5	58.1	15.3	59.6	15.2	59.3
Side 8		**21 Units**	235	106	14.5%	37.6%	**1.1%**	**413**	27	0.83	**1.67**	**16.5**	**61.7**	**15.3**	**59.6**	**18.4**	**65.1**
Lawrence Cr		**43 Units**	**175**	**82**	**14.4%**	**33.4%**	**1.1%**	**413**	**26**	**0.81**	**1.64**	**16.3**	**61.4**	**17.3**	**63.1**	**19.1**	**66.4**
Hydrologic Unit: Middle Yager																	
Planning Watershed: Bald Jessie																	
S Fk Yaner 1	68	1967			16.4%	40.1%											
S Fk Yaaer 1	68	1968			16.5%	39.9%											
S Fk Yaaer 1	68	1969			23.6%	54.8%											
S Fk Yaaer 1	68	1992														24.0	75.2
S Fk Yaaer 1	68	**1995**														20.3	68.6
Station Average	68				18.8%	44.9%										22.2	71.9
S Fk Yaner **2***	86	1967			16.4%	36.1%											
S Fk Yaaer **2***	86	1968			17.3%	44.7%											
S Fk Yaaer **2***	86	1969			22.1%	52.4%											
Station Average	86				18.6%	44.4%											
Bald Jessie		6 Units			**18.7%**	**44.7%**										22.2	**71.9**

Hydrologic Unit / Planning Watershed / Station	Station #	Year	Cobbel D84 +	Cobbel D50 +	Fine Sediment <0.85	Fine Sediment <4.7	Complexity CV% +	LWD CuFt/ 100'	Macroinvertebrates Richness +	Macroinvertebrates Simpson +	Macroinvertebrates Hilsenhoff +	MWAT C	MWAT F	7 Day Avg. High C	7 Day Avg. High F	High Temp. C	High Temp. F
Planning Watershed: Humphrey																	
M Fk Yager 1	10	1994	178	57	18.7%	29.9%			37	0.91	1.81						
M Fk Yager 1	10	1995	317	97					40	0.94	1.97						
M FkYaaerl	10	1996	218	84	21.2%	36.6%			28	0.91	1.62						
M FkYaaerl	10	1997	174	46					32	0.92	1.69						
Station Average	10		222	71	20.0%	33.3%			34	0.92	1.78						
Humphrey		4 Units	222	71	20.0%	33.3%			34	0.92	**1.78**						
Middle Yager		12 Units	222	71	**19.0%**	**41.8%**			34	0.92	1.78					22.2	**71.9**
Hydrologic Unit: North Yager																	
Planning Watershed: North Fork Yager Creek																	
N Fk Yager 1	11	1992														25.6	78.0
N Fk Yager 1	11	1994	300	90	21.2%	49.1%			31	0.90	2.22						
N FkYaaerl	11	1995	335	129					27	0.92	2.06					28.8	83.8
N FkYaaerl	11	1996	235	54	17.8%	35.6%	1.2%		29	0.90	1.98					30.9	87.7
N FkYaaerl	11	1997	335	36			1.0%	101	31	0.88	1.81						
Station Average	11		301	77	19.5%	42.4%	1.1%	101	30	0.90	2.02					28.4	83.1
PL5	45	1980			9.0%	28.0%			14	0.80	1.80						
PL5	45	1981			10.0%	36.0%											
Station Average	45				9.5%	32.0%			14	0.80	1.80						
North Fork Yager Creek		7 Units	301	77	14.5%	37.2%	**1.1%**	**101**	26	0.88	**1.97**					28.4	83.1
North Yager		7 Units	301	77	14.5%	37.2%	**1.1%**	**101**	26	0.88	**1.97**					28.4	83.1
Hydrologic Unit: Lower Yager																	
Planning Watershed: Camp																	
Yanerl	5	1994	265	-32	22.7%	42.2%			27	0.87	2.12						
Yager 1	5	1995	889	298					24	0.85	2.05						
Yaaerl	5	1996	450	52	18.8%	39.1%	2.7%		23	0.82	1.83						
Yager 1	5	1997	481	54					24	0.84	2.17						
Station Average	5		521	109	20.7%	40.6%	2.7%		25	0.84	2.04						
Cooper Mill 1	66	1992														19.4	67.0
Cooper Mill 1	66	1993														16.7	62.0
Cooper Mill1	66	1994										15.4	59.8	16.1	60.9	17.1	62.7
Cooper Mill1	66	1995														18.4	65.1
Cooper Mill 1	66	1996										14.9	58.7	16.4	61.5	16.9	62.4

Hydrologic Unit / Planning Watershed / Station	Station #	Year	Cobbel D84 +	Cobbel D50 +	Fine Sediment <0.85	Fine Sediment <4.7	Complexity CV% +	LWD CuFt/ 100'	Macroinvertebrates Richness +	Macroinvertebrates Simpson +	Macroinvertebrates Hilsenhoff	MWAT C	MWAT F	7 Day Avg. High C	7 Day Avg. High F	High Temp. C	High Temp. F
Station Average	66											15.1	59.2	16.2	61.2	17.7	63.8
Yaoer - at Camo	85	1992														23.9	75.0
Yaner - at Camp	85	1995														25.6	78.0
Station Average	85															24.7	76.5
Camp		11 Units	521	**109**	**20.7%**	**40.6%**	2.7%		25	0.84	2.04	**15.1**	**59.2**	**16.2**	**61.2**	**19.7**	**67.5**
Planning Watershed: Yager Creek																	
Yaner4	6	1994	99	14	16.0%	31.1%			31	0.90	2.02						
Yaner 4	6	1995	167	59					30	0.93	2.19						
Yager 4	6	1996	71	39	23.4%	46.5%			31	0.86	2.06						
Yaaer 4	6	1997	35	14					27	0.77	2.46						
Station Average	6		93	32	20.7%	38.8%			30	0.86	2.19						
Yaaer 3	7	1994	170	83	24.9%	40.3%			33	0.89	2.22						
Yaaer 3	7	1995	187	46					22	0.89	2.11						
Yaaer 3	7	1996	168	58	18.7%	37.3%			28	0.91	2.04						
Yaner 3	7	1997	156	51					25	0.87	2.16						
Station Average	7		170	60	21.8%	38.8%			27	0.89	2.13						
Yaner 2	8	1994	76	16	20.0%	45.2%			25	0.91	2.16						
Yaaer 2	8	1995	330	178					19	0.78	1.99						
Yaner 2	8	1996	365	246	22.3%	47.1%			23	0.92	2.04						
Yaner 2	8	1997	254	82					27	0.90	1.85						
Station Average	8		256	131	21.2%	46.2%			24	0.88	2.01						
PL22	46	1980			13.0%	24.0%			13	0.73	1.66						
PL22	46	1961			11.0%	22.0%											
Station Average	46				12.0%	23.0%			13	0.73	1.66						
Yager Creek		14 Units	**173**	**74**	**18.9%**	**36.7%**			26	0.87	2.08						
Lower Yager		25 Units	260	83	**19.3%**	**37.5%**	2.7%		25	0.86	2.07	**15.1**	**59.2**	**16.2**	**61.2**	**19.7**	**67.5**
Yager WAA		87 Units	**241**	**80**	**16.3%**	**36.1%**	**1.5%**	257	27	0.85	1.84	**16.0**	**60.8**	**16.9**	**62.5**	**20.8**	**69.4**
Hvdroloaic Unit: VanDuzen WAA																	
Planning Watershed: Cummings																	
Cumminas 1	108	1995	305	83					32	0.93	1.53						
Cumminas 1	108	1996	225	74	25.3%	44.4%			31	0.92	1.46	15.6	60.0	17.7	63.8	17.9	64.3
Cumminas 1	108	1997	163	41			1.2%		33	0.82	2.01						
Station Average	108		231	66	25.3%	44.4%	1.2%		32	0.89	1.67	15.6	60.0	17.7	83.8	17.9	64.3

Hydrologic Unit / Planning Watershed / Station	Station #	Year	Cobbel D84 +	Cobbel D50 +	Fine Sediment <0.85	Fine Sediment <4.7	Complexity CV% +	LWD CuFt/ 100'	Macroinvertebrates Richness +	Macroinvertebrates Simpson +	Macroinvertebrates Hilsenhoff	MWAT C	MWAT F	7 Day Avg. High C	7 Day Avg. High F	High Temp. C	High Temp. F
Cummings		3 Units	**231**	66	25.3%	44.4%	**1.2%**		32	0.89	1.67	15.6	60.0	17.7	63.8	**17.9**	**64.3**
Planning Watershed: Grizzly Creek																	
Grizzlev 1	111	1995	349	90					27	0.85	2.06						
Grizzlev 1	111	1996	326	116	23.9%	41.8%			24	0.87	1.98						
Grizzlev 1	111	1997	236	71			1.0%	815	31	0.90	1.72						
Station Average	111		304	92	23.9%	41.8%	1.0%	815	27	0.87	1.92						
Grizzly Creek		3 Units	304	92	23.9%	41.8%	**1.0%**	**815**	**27**	0.87	**1.92**						
Planning Watershed: Hely Creek																	
Helv 1	112	1995	69	36					22	0.86	1.62						
Hely 1	112	1996	80	53	18.7%	29.5%	0.1%		19	0.82	2.13						
Helv 1	112	1997	65	28				449	21	0.89	1.98						
Station Average	112		71	39	16.7%	29.5%	0.1%	449	21	0.86	1.91						
Hely Creek		3 Units	**71**	39	16.7%	29.5%	**0.1%**	**449**	**21**	0.86	**1.91**						
Planning Watershed: Root Creek																	
Root1	3	1994	50	27	35.1%	51.7%			19	0.84	1.64						
Root1	3	1995	52	31					27	0.86	1.59						
Root1	3	1996	125	81	24.4%	34.2%			24	0.84	1.63	15.3	59.5	16.3	61.3	16.5	61.8
Root 1	3	1997	87	43			1.3%	232	28	0.89	1.53						
Station Average	3		79	46	29.7%	42.9%	1.3%	232	25	0.86	1.59	15.3	59.5	16.3	61.3	16.5	61.8
Root2	109	1995	48	27					25	0.87	1.64						
Root2	109	1996	98	43	48.5%	58.6%			26	0.86	1.72						
Root2	109	1997	58	30					23	0.82	1.86						
Station Average	109		68	33	48.5%	58.6%			25	0.85	1.74						
Root Creek		7 Units	74	40	36.0%	48.2%	1.3%	232	25	0.85	1.66	15.3	59.5	16.3	61.3	16.5	61.8
VanDuzen WAA		**16 Units**	**146**	**55**	**29.0%**	**43.4%**	**0.9%**	**499**	**26**	**0.87**	**1.76**	**15.4**	**59.7**	**17.0**	**62.5**	**17.2**	**63.0**
VanDuzen WAA		**16 Units**	**146**	**55**	**29.0%**	**43.4%**	**0.9%**	**499**	**26**	**0.87**	**1.76**	**15.4**	**59.7**	**17.0**	**62.5**	**17.2**	**63.0**
Hydrologic Unit: Eel Delta																	
Planning Watershed: Dean Creek																	
Nanning 1	**4**	1994	**225**	**24**	**40.6%**	**64.6%**			**30**	**0.89**	1.89						
Nanning 1	**4**	1995	**356**	**55**					**18**	**0.79**	**1.58**					21.1	70.0
Nanning 1	**4**	1996	**324**	114	23.8%	40.8%			22	0.62	2.49						
Nanning 1	**4**	1997	162	16			0.9%	1.008	23	0.81	1.86						

Hydrologic Unit / Planning Watershed / Station	Station #	Year	Cobbel D84 +	Cobbel D50 +	Fine Sediment <0.85	Fine Sediment <4.7	Complexity CV% +	LWD CuFt/ 100'	Macroinvertebrates Richness +	Macroinvertebrates Simpson +	Macroinvertebrates Hilsenhoff	MWAT C	MWAT F	7 Day Avg. High C	7 Day Avg. High F	High Temp. C	High Temp. F
Station Average	4		267	52	32.2%	52.7%	0.9%	1,008	23	0.78	1.96					21.1	70.0
Nanning 2	123	1996	63	31	37.6%	60.2%			23	0.85	1.55						
Nanning 2	123	1997	136	40					25	0.90	1.74						
Station Average	123		100	36	37.6%	60.2%			24	0.88	1.65						
Dean Creek		6 Units	**211**	**47**	**34.0%**	**55.2%**	0.9%	**1,008**	**24**	**0.81**	**1.85**					**21.1**	**70.0**
Planning Watershed: Howe Creek																	
Howe1	124	1996	187	73	34.3%	46.4%			23	0.83	2.00						
Howe1	124	1997	94	32			0.9%	796	**20**	**0.85**	**2.03**						
Station Average	124		141	53	34.3%	46.4%	0.9%	796	22	0.84	2.01						
Howe Creek		2 Units	**141**	**53**	**34.3%**	**46.4%**	0.9%	796	**22**	**0.84**	**2.01**						
Planning Watershed: Newberg																	
Stronas 1	93	**1995**										15.5	60.0	16.5	61.7	17.0	62.7
Station Average	93											15.5	60.0	16.5	61.7	17.0	62.7
NF Stronas2	94	1995										14.1	57.4	14.2	57.6	14.3	57.8
Station Average	94											14.1	57.4	14.2	57.6	14.3	57.8
Stronns2	115	1995	137	96					23	0.84	1.80	14.1	57.4			14.4	57.9
Stronns2	115	1996	156	68	45.3%	53.1%			23	0.90	1.43						
Stronas 2	115	1997	73	41			1.2%	**250**	**23**	**0.85**	1.52						
Station Average	115		122	68	45.3%	53.1%	1.2%	250	23	0.86	1.58	14.1	57.4			14.4	57.9
Newberg		5 Units	**122**	**68**	**45.3%**	**53.1%**	**1.2%**	**250**	**23**	**0.86**	**1.58**	**14.6**	**58.2**	**15.4**	59.7	**15.2**	59.4
Eel Delta		13 Units	**174**	**54**	**36.3%**	**53.0%**	**1.0%**	**685**	**23**	**0.83**	**1.81**	**14.6**	**58.2**	**15.4**	59.7	**16.7**	**62.1**
Hydrologic Unit: Giants Ave.																	
Planning Watershed: Fox Camp																	
Bull F&G 1	69	1991			29.3%	**42.4%**											
Station Average	69				29.3%	**42.4%**											
Squaw 1 (61% OG)	102	1991			17.9%	31.6%											
Squaw1 (61% OG)	102	1995	106	71					26	0.92	1.81	17.2	62.9	16.8	62.3	17.4	63.2
Squaw 1 (61% OG)	**102**	1996	104	79	28.3%	48.5%	0.9%		**22**	**0.85**	**1.36**					17.5	63.5
Squaw1 (61% OG)	102	1997	58	33			0.7%	1.779	27	0.81	2.44						
Station Average	102		89	61	23.1%	40.0%	0.8%	1,779	25	0.86	1.87	17.2	62.9	16.8	62.3	17.4	63.4
Cuneo	137	1996	**267**	**31**	**22.2%**	**34.3%**	**0.6%**		**27**	**0.82**	1.94						
Cuneo	137	1997	118	20					23	0.78	2.21						

Hydrologic Unit Planning Watershed / Station	Station #	Year	Cobbel D84 +	Cobbel D50 +	Fine Sediment - <0.85	Fine Sediment - <4.7	Complexity CV% +	LWD CuFt/ 100'	Macroinvertebrates Richness +	Macroinvertebrates Simpson +	Macroinvertebrates Hilsenhoff	MWAT C	MWAT F	7 Day Avg. C	7 Day High F	High Temp. C	High Temp. F
Station Average	137		193	26	22.2%	34.3%	0.6%		25	0.80	2.08						
Fox Camp		7 Units	**131**	**47**	**24.4%**	**39.2%**	0.7%	**1,779**	**25**	0.83	**1.95**	**17.2**	**62.9**	**16.8**	**62.3**	**17.4**	**63.4**
Planning Watershed: Myers Flat																	
Canoe 1 (62% OG)	103	1995	170	78	18.3%	37.6%	1.6%		23	0.82	1.91					19.4	67.0
									24	0.90	1.86	18.0	64.3	20.1	68.3	20.5	68.9
Canoe 1 (62% OG)	103	1996	199	98	18.3%	37.6%	1.8%		24	0.90	1.86	17.8	64.1	19.7	67.4	20.1	68.1
Canoe1 (62% OG)	103	1997	75	35			1.8%	1.546	25	0.88	1.93						
Station Average	103		161	76	18.3%	37.6%	1.6%	1,546	24	0.87	1.89	17.9	64.2	19.9	67.8	20.0	68.0
Myers Flat		4 Units	**161**	76	16.3%	37.6%	**1.6%**	**1,546**	24	0.87	1.89	17.9	64.2	19.9	67.6	20.0	68.0
Planning Watershed: Panther Gap																	
Bull2	101	1995	1158	**457**					22	0.76	2.11						
Bull2	101	1996	1000	413	29.2%	47.9%			26	0.85	1.61	19.5	67.2	21.8	71.3	22.4	72.3
Bull2	101	1997	251	63					24	0.88	1.94						
Station Average	101		803	311	29.2%	47.9%			24	0.83	1.89	19.5	67.2	21.8	71.3	22.4	72.3
Panther Gap		3 Units	803	**311**	**29.2%**	**47.9%**			24	0.83	**1.89**	**19.5**	**67.2**	**21.6**	**71.3**	**22.4**	**72.3**
Planning Watershed: Weott																	
Bull 1	100	1995	63	35					23	0.88	2.12	19.9	67.8	22.6	72.7	24.0	75.1
Bull1	100	1996	91	46	19.1%	39.1%			22	0.77	1.66	20.6	69.1	25.1	77.2	25.5	77.9
Bull1	100	1997	64	24					22	0.86	2.21						
Station Averaae	100		73	35	19.1%	39.1%			22	0.84	2.00	20.2	68.4	23.9	75.0	24.7	76.5
Cow 1 (93% OG)	105	1995	132	58					31	0.93	1.81						
Cow 1 (93% OG)	105	1996	142	79	21.9%	36.6%	1.2%		31	0.93	1.48	16.4	61.6	17.9	64.2	18.3	65.0
Cow 1 (93% OG)	105	1996	142	79	21.9%	36.6%	1.2%		31	0.93	1.48	16.4	61.5	17.7	63.9	18.1	64.6
Cow 1 (93% OG)	105	1997	87	30			0.7%	1,187	24	0.84	2.65						
Station Average	105		126	62	21.9%	36.6%	1.0%	1,187	29	0.90	1.86	16.4	61.5	17.8	64.0	18.2	64.8
Weott		7 Units	103	50	21.0%	37.5%	**1.0%**	**1,187**	**26**	0.86	**1.92**	**18.3**	**65.0**	**20.8**	**69.5**	**21.5**	**70.6**
Planning Watershed: Whittemore Grove																	
Redwood Cr F&G 1	65	1990			21.8%	40.3%											
Redwood Cr F&G 1	65	1994							29	0.91	1.43						
Station Average	65				21.8%	40.3%			29	0.91	1.43						
Whittemore Grove		2 Units			**21.8%**	**40.3%**			**29**	**0.91**	**1.43**						
Giants Ave.		23 Units	233	96	22.6%	39.3%	**1.1%**	**1,504**	**25**	0.86	1.89	18.2	64.8	20.2	66.4	20.3	68.6

Hydrologic Unit / Planning Watershed / Station	Station #	Year	Cobbel D84 +	Cobbel D50 +	Fine Sediment <0.85	Fine Sediment <4.7	Complexity CV% +	LWD CuFt/ 100'	Macroinvertebrates Richness +	Macroinvertebrates Simpson +	Macroinvertebrates Hilsenhoff	MWAT C	MWAT F	7 Day High Avg. C	7 Day High High C	7 Day High Temp. F	
Hydrologic Unit: Larabee Cr																	
Planning Watershed: Larabee																	
Larabee 1	2	1994	165	61	9.0%	22.2%			24	0.87	2.27						
Larabeel	2	1995	146	60					23	0.88	2.13	21.3	70.3	26.2	79.2	27.1	80.7
Larabeel	2	1996	163	51	18.0%	36.3%			25	0.91	1.99	23.3	74.0	29.2	84.5	29.7	85.4
Larabeel	2	1997	244	65			2.4%	115	18	0.80	1.97						
Station Average	2		180	59	13.5%	29.3%	2.4%	115	23	0.87	2.09	22.3	72.1	27.7	81.9	28.4	83.1
Scott 1	99	1995										14.0	57.3	14.9	58.8	15.4	59.7
Scott 1	99	1996										14.4	57.9	14.7	58.4	14.8	58.7
Station Average	99											14.2	57.6	14.8	58.6	15.1	59.2
Larabee		6 Units	**180**	**59**	**13.5%**	**29.3%**	**2.4%**	**115**	**23**	**0.87**	**2.09**	**18.3**	**64.8**	**21.2**	**70.2**	**21.7**	**71.1**
Larabee Cr		6 Units	**180**	**59**	**13.5%**	**29.3%**	**2.4%**	**115**	**23**	**0.87**	**2.09**	**18.3**	**64.8**	**21.2**	**70.2**	**21.7**	**71.1**
Hydrologic Unit: Lower Eel																	
Planning Watershed: Pepperwood																	
Bear Cr 1	89	1995														21.9	71.4
Bear Cr 1	89	1996										17.4	63.4	20.3	68.5	20.7	69.3
Station Average	89											17.4	63.4	20.3	68.5	21.3	70.4
BearCr2	107	1995	115	57					**26**	0.91	1.88						
BearCr2	107	1996	85	44	17.3%	36.9%			35	0.90	1.60						
BearCr2	107	1997	**60**	**20**			**0.4%**	1.979	27	**0.86**	**2.16**						
Station Average	107		87	40	17.3%	36.9%	0.4%	1,979	29	0.89	1.88						
BearCr3	114	1995	188	97					26	0.88	1.69						
BearCr3	114	1996	141	69	14.3%	31.2%			30	0.89	1.94						
BearCr3	114	1997	**67**	**23**					**28**	**0.85**	**2.29**						
Station Average	114		132	63	14.3%	31.2%			28	0.87	1.97						
Shively 1	130	1996	89	42	15.3%	27.2%			25	0.86	1.51						
Shively 1	130	1997	**88**	**38**			**0.8%**	**108**	**31**	**0.88**	1.47						
Station Average	130		89	40	15.3%	27.2%	0.8%	108	28	0.87	1.49						
Pepperwood		10 Units	**104**	**49**	**15.6%**	**31.8%**	**0.6%**	**1,043**	**29**	**0.88**	**1.82**	**17.4**	**63.4**	**20.3**	**68.5**	**21.3**	**70.4**
Planning Watershed: Scotia																	
Monument2	106	1995	272	85					32	0.90	1.84						
Monument2	106	1996	217	60	23.0%	37.8%	1.1%		30	0.87	1.82	15.8	60.4	19.0	66.3	19.5	67.0
Monument2	106	1997	270	67			1.0%	**582**	**20**	**0.88**	1.81						

Hydrologic Unit / Planning Watershed / Station	Station #	Year	Cobbel D84 +	Cobbel D50 +	Fine Sediment - <0.85	Fine Sediment - <4.7	Complexity CV% +	LWD CuFt/ 100'	Macroinvertebrates Richness +	Macroinvertebrates Simpson +	Macroinvertebrates Hilsenhoff	MWAT C	MWAT F	7 Day Avg. High C	7 Day Avg. High F	High Temp. C	High Temp. F
Station Average	106		253	71	23.0%	37.8%	1.1%	582	27	0.88	1.82	15.8	60.4	19.0	66.3	19.5	67.0
Scotia		3 Units	253	**71**	**23.0%**	**37.8%**	**1.1%**	582	27	0.88	**1.82**	**15.8**	**60.4**	**19.0**	**66.3**	**19.5**	**67.0**
Planning Watershed: Stafford																	
Twin 1	95	1995														21.4	70.6
Twin 1	95	1996										16.3	61.4	20.0	67.9	20.5	68.8
Station Average	95											16.3	61.4	20.0	67.9	20.9	69.7
Stafford		2 Units										16.3	61.4	20.0	67.9	20.9	69.7
Lower Eel		**15 Units**	145	55	17.5%	33.3%	0.8%	890	28	0.88	**1.62**	**16.5**	**61.7**	**19.8**	**67.6**	**20.8**	**69.4**
Hydrologic Unit: Sequoia																	
Planning Watershed: McCann																	
Thompson 1	126	1996	156	62	19.6%	33.3%			31	0.91	1.74						
Thompson1	126	1997	163	54					29	0.88	1.74						
Station Average	126		160	58	19.6%	33.3%			30	0.90	1.74						
McCann		2 Units	**160**	**58**	**19.6%**	**33.3%**			**30**	**0.90**	**1.74**						
Planning Watershed: White House																	
Newman1	122	1996	96	58	16.6%	26.0%			28	0.93	1.54						
Newman1	122	1997	**78**	**36**			**0.9%**	130	32	0.92	1.67						
Station Average	122		88	47	18.6%	26.0%	0.9%	130	30	0.92	1.60						
White House		2 Units	**88**	**47**	**16.6%**	**26.0%**	**0.9%**	**130**	**30**	**0.92**	**1.60**						
Sequoia		4 Units	**124**	**53**	**18.1%**	**29.6%**	**0.9%**	**130**	**30**	**0.91**	**1.67**						
Eel WAA		**61 Units**	**187**	**71**	**23.4%**	**39.5%**	**1.1%**	**862**	**26**	**0.86**	**1.66**	**17.3**	**63.2**	**19.6**	**67.7**	**20.0**	**68.1**
Hydrologic Unit: Bear River																	
Planning Watershed: Beer Bottle																	
Bear River 1	1	1994	129	**52**	**12.4%**	26.1%			25	0.86	2.11	17.2	63.0	21.1	70.1	21.9	71.5
Bear River 1	1	1995	**205**	**47**					**22**	**0.87**	**2.08**					**23.0**	**73.4**
Bear River 1	1	1996	163	54	15.1%	27.1%			31	0.87	1.88	19.5	67.2	23.9	75.0	24.7	76.4
Bear River 1	1	1997	150	38			**1.0%**	560	25	0.88	1.82						
Station Average	1		162	48	13.7%	26.6%	1.0%	**560**	**26**	**0.87**	1.97	**18.4**	65.1	22.5	72.5	23.2	73.8
Beer Bottle		4 Units	**162**	**48**	**13.7%**	**26.6%**	**1.0%**	**560**	**26**	**0.67**	**1.97**	**18.4**	**65.1**	**22.5**	**72.5**	**23.2**	**73.8**

Hydrologic Unit / Planning Watershed / Station	Station #	Year	Cobbel D84 +	Cobbel D50 +	Fine Sediment <0.85	Fine Sediment <4.7	Complexity CV% +	LWD CuFt/ 100'	Macroinvertebrates Richness +	Macroinvertebrates Simpson +	Macroinvertebrates Hilsenhoff	MWAT C	MWAT F	7 Day Avg. High C	7 Day Avg. High F	High Temp. C	High Temp. F
Planning Watershed: Happy Valley																	
Bear River 2	97	1995										16.6	61.8	20.5	69.0	21.4	70.5
Bear River 2	97	1996														21.3	70.3
Station Average	97											16.6	61.8	20.5	69.0	21.3	70.4
Harmonica 1	131	1996	112	53	15.9%	27.3%			23	0.90	1.59						
Harmonica 1	131	1997	52	13			0.8%	401	23	0.87	1.93						
Station Average	131		82	33	15.9%	27.3%	0.8%	401	23	0.88	1.76						
Pullen 1	134	1996	114	63	12.9%	25.0%			24	0.89	1.66						
Pullen 1	134	1997	50	23			0.9%	698	22	0.89	2.00						
Station Averaae	134		82	43	12.9%	25.0%	0.9%	698	23	0.89	1.83						
Happy Valley		6 Units	**82**	38	14.4%	26.1%	0.8%	550	23	0.89	1.80	16.6	61.8	20.5	69.0	21.3	70.4
Bear River		**10 Units**	**122**	**43**	**14.1%**	**26.4%**	**0.9%**	553	24	0.88	1.88	17.8	64.0	21.9	71.3	22.5	72.4
Hydrologic Unit: NF Mattole River																	
Planning Watershed: Rainbow																	
Rodgers 1	29	1994	255	67	30.4%	47.4%			30	0.85	1.99						
Rodaers 1	29	1995	450	112					21	0.70	1.94						
Rodners 1	29	1996	296	82	24.1%	40.4%			24	0.81	1.41	17.9	64.3	22.2	72.0	23.1	73.6
Rodners 1	29	1997	220	56					36	0.87	2.16						
Station Average	29		305	79	27.2%	43.9%			28	0.81	1.87	17.9	64.3	22.2	72.0	23.1	73.6
Alwardt 1	30	1994	270	27	17.5%	36.4%			35	0.87	1.96						
Alwardt 1	30	1995	225	22					28	0.90	2.15						
Alwardt 1	30	1996	450	130	17.1%	32.8%			29	0.88	1.89						
Alwardt 1	30	1997	345	55					36	0.89	2.08						
Station Average	30		323	59	17.3%	34.6%			32	0.89	2.02						
Rainbow		8 Units	**314**	**69**	**22.3%**	**39.2%**			30	0.85	**1.95**	**17.9**	**64.3**	**22.2**	**72.0**	**23.1**	**73.6**
NF Mattole River		**8 Units**	**314**	**69**	**22.3%**	**39.2%**			30	0.85	**1.95**	**17.9**	**64.3**	**22.2**	**72.0**	**23.1**	**73.6**
Hydrologic Unit: Upper NF Mattole																	
Planning Watershed: Rattlesnake Creek																	
Rattle Snake F&G	62	1991			13.3%	32.6%											
Rattle Snake F&G	62	1993														19.0	66.2
Rattle Snake F&G	62	1994							23	0.87	1.89					20.6	69.0
Rattle Snake F&G	62	1994							27	0.87	1.69					20.6	69.0

Hydrologic Unit / Planning Watershed / Station	Station #	Year	Cobbel D84 +	Cobbel D50 +	Fine Sediment - <0.85	Fine Sediment - <4.7	Complexity CV% +	LWD CuFt/ 100	Macroinvertebrates Richness +	Macroinvertebrates Simpson +	Macroinvertebrates Hilsenhoff	MWAT C	MWAT F	7 Day Avg. High C	7 Day Avg. High F	High Temp. C	High Temp. F
Rattle Snake F&G	62	1996			8.0%	26.2%											
Station Average	62				10.7%	29.4%			25	0.87	1.79					20.0	68.1
Rattlesnake Creek		5 Units			**10.7%**	**29.4%**			25	0.87	**1.79**					20.0	68.1
Planning Watershed: Tent City																	
Oil F&G	63	1991			19.2%	40.7%										26.7	80.0
Oil F&G	63	1993														25.0	77.0
Oil F&G	63	1994							23	0.89	1.86					25.6	78.0
Oil F&G	63	1994							21	0.88	1.87					25.6	78.0
Oil F&G	63	1996			8.7%	26.9%											
Station Average	63				14.0%	33.8%			22	0.89	1.86					25.7	78.3
Green Ridge F&G	64	1991			23.0%	52.1%											
Green Ridne F&G	64	1993														18.9	66.0
Green Ridae F&G	64	1994							36	0.94	1.54					21.4	70.5
Station Average	64				23.0%	52.1%			36	0.94	1.54					20.1	68.3
Tent City		8 Units			**17.0%**	**39.9%**			27	0.90	1.75					23.8	74.9
Upper NF Mattole		13 Units			**14.5%**	**35.7%**			26	0.89	**1.77**					22.6	72.6
Bear Mattole WAA		31 Units	**218**	**56**	**16.7%**	**33.9%**	**0.9%**	553	27	0.87	1.88	17.8	64.1	21.9	71.5	22.6	72.6
Hydrologic Unit: Outlet Cr																	
Planning Watershed: Willits Creek																	
Willits F&G 3	75	1991			21.9%	30.0%											
Station Average	75				21.9%	30.0%											
Willits F&G 4	76	1991			21.8%	35.3%											
Station Average	76				21.8%	35.3%											
Willits F & G 5	77	1991			25.5%	35.6%											
Station Average	77				25.5%	35.6%											
Willits F&G 6	78	1991			26.7%	39.1%											
Station Average	78				26.7%	39.1%											
Willits Creek		4 Units			24.0%	35.0%											
Outlet Cr		4 Units			24.0%	35.0%											
Hydrologic Unit: Richardson																	
Planning Watershed: Miller Creek																	

Hydrologic Unit / Planning Watershed / Station	Station #	Year	Cobbel D84 +	Cobbel D50 +	Fine Sediment <0.85	Fine Sediment <4.7	Complexity CV% +	LWD CuFt/ 100'	Macroinvertebrates Richness +	Macroinvertebrates Simpson +	Macroinvertebrates Hilsenhoff	MWAT C	MWAT F	7 Day Avg. High C	7 Day Avg. High F	High Temp. C	High Temp. F
Redwood Cr F&G 2	41	1990			15.0%	30.8%											
Redwood Cr F&G 2	41	1994							29	0.87	1.43						
Station Average	41				15.0%	30.8%			29	0.87	1.43						
Redwood Cr F&G 3	70	1990			25.7%	42.0%											
Redwood Cr F&G 3	70	1996										17.4	63.3	18.6	65.5	19.1	66.4
Station Average	70				25.7%	42.0%						17.4	63.3	18.6	65.5	19.1	66.4
Miller Creek		4 Units			20.4%	36.4%			29	0.87	**1.43**	**17.4**	**63.3**	**18.6**	**65.5**	**19.1**	**66.4**
Planning Watershed: Upper Sprout Creek																	
Little Sproul F&G 1	54	1994							32	0.92	1.82						
Little Soroul F&G 1	54	1994							31	0.86	1.88						
Little Sproul F&G 1	54	1996										19.2	66.6	21.0	69.9	21.7	71.1
Station Average	54								32	0.89	1.85	19.2	66.6	21.0	69.9	21.7	71.1
Little Soroul F&G 2	55	1994							26	0.74	1.97						
Station Average	55								26	0.74	1.97						
Sproul F&G 4	79	1990			21.8%	42.2%											
Station Average	79				21.8%	42.2%											
Soroul F&G 6	80	1990			26.2%	44.0%											
Station Average	80				26.2%	44.0%											
Sproul F&G 7	81	1990			23.4%	38.7%											
Station Average	81				23.4%	38.7%											
Upper Sprout Creek		7 Units			23.8%	41.6%			30	0.84	**1.89**	**19.2**	**66.6**	**21.0**	**69.9**	**21.7**	**71.1**
Richardson		11 Units			22.4%	39.5%			30	0.85	1.76	18.3	65.0	19.8	67.7	20.4	68.8
Hydrologic Unit: Upper Mattole																	
Planning Watershed: Thompson Creek																	
Baker F&G 1	56	1994							33	0.91	1.56						
Station Average	56								33	0.91	1.56						
Baker F&G 2	57	1994							37	0.88	1.83						
Station Average	57								37	0.88	1.83						
Baker F&G 3	58	1994							25	0.85	1.89						
Station Average	58								25	0.85	1.89						
Baker F&G 4	59	1994							33	0.91	1.58						
Station Average	59								33	0.91	1.58						

Hydrologic Unit Planning Watershed Station	Station #	Year	Cobbel D84 +	ᵽ s o +	Fine Sediment - <0.85	<4.7	Complexity ε∀% +	LWD CuF t/ 100'	Macroinvertebrates Richness +	Simpson +	Hilsenhoff	MWAT ε F	7 Day Avg. ε	High F	High Temp. ε	F
Thompson Creek		4 Units							**32**	**0.89**	**1.71**					
Upper Mattole		4 Units							**32**	**0.89**	**1.71**					
Outside Bioregion		19 Units			**23.1 %**	**37.5%**			**ɔɔ**	**0.87**	**1.75**	**1 8.3**	**65.0**	**1 9.8**	**67.7**	**ZO.d 68.8**
All (Mad to Mattole)		287 Units	**187**	**63**	**21 .3%**	**38.6%**	**1.1%**	**858**	**28**	**0.87**	**1.75**	**1 6.7**	**62.0**	**1 8.7**	**6 S . 1**	**19.9 67.8**